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EVA D. KELLOGG, EDITOR

THE groves were God's first temples. Ere man learned
To hew the shaft and lay the architrave,
And spread the roof above them; ere he framed
The lofty vault, to gather and roll back
The sound of anthems; in the darkling wood,
Amid the cool and silence, he knelt down,
And offered to the Mightiest solemn thanks
And supplication. *Bryant.*

"There are two ways of teaching," says Chancellor Payne; "one, permitting to know, and the other, causing to know."

There are two ways of carrying out the purposes of Arbor Day; one is permitting the children to appreciate the sentiment and value of trees, and the other is *causing* them to feel such a respect for trees and such reverence for the great Plan of the universe in combining so much of beauty and utility in tree-life, that every boy will feel like lifting his cap in gratitude before them.

It all comes back to the same truth that is verified a hundred times a day in every school-room in the land — *it all depends on the teacher*. A worn-out saying? Yes. But nothing can be substituted for it. It is such a plain, direct, self-evident fact, that there is no evading it — no dressing it up. Arbor day, in its lasting effect upon the character of the children, will be just what the teacher makes it. If the primrose be to her only a flower "by the river's brim," and a tree only pleasant for shade and good for firewood, then all the preaching and precepting in the world will not make the day anything to her or her children but a state holiday and an interruption of school work.

But to the teacher who feels that an entrance to the woods is like stepping into a holy temple where bird-song voices the tribute of praise that is stirred in every reverent heart, the day will be one of glad opportunity to lift the children from the monotonous round of study and recitation into an atmosphere where unselfishness and thoughtfulness for others seem "the natural way of living."

For what is tree planting and forest preservation but living for others? The little children can understand this if it is put rightly, and Arbor day may be made one grand step towards learning life's lesson — the lesson of unselfing self.

The little "gems" for the blackboard; the pictures and sketches that have been collecting since last Arbor day; the morning talks and the "nature study," with the Arbor day thought; the joyous woodsy song practised for days beforehand; the tree legends from every nation and clime; — all these will be a fitting preparation that will not take time from school work, but become a part of it.

The Cleveland Meeting.

How many primary teachers are conversant with the principal features of the much-talked-of "Cleveland Meeting?" How many can talk intelligently of it,— its specific purpose, the memorable reports and exciting discussions? The "Committee of Fifteen — when and by whom appointed and for what purpose? How did the object of this committee differ from that of the famous "Committee of Ten?" What was the subject of Dr. Harris' report? Who discussed it and what were the points of criticism?

No teacher, whether at the cross-roads or at the centres, can afford to be ignorant of leading educational events. Primary teachers, absorbed in the problems of their own special department are apt to consider themselves set apart from other fields of educational work. The tendency of this belief is toward narrowness and clannishness; — to relegate all national meetings and great educational issues to "the leaders," and to consider their own special needs as peculiar, to be met only by individual effort and personal experience. This is a mistake. That primary teacher is most valuable and succeeds best in the largest sense who is interested in a survey of the whole field. What is "Correlation" and "Herbartianism" to her? Just as much as to teachers of higher grades. There is no dividing point where research for truth begins or ends. Dr. Harris' report is not mystified by philosophic phrase that needs interpretation by educational magazines for teachers to understand, else it would not have been "great" whatever its power or pithiness. Its conclusions affect the every-day work of every teacher. The readers of PRIMARY EDUCATION are not asked to accept one of these conclusions, but we do plead that this report be read by them carefully and impartially.

Claims of Arbor Day.

By E. J. PHELPS, New Haven, Conn.

DOES it seem strange that among the red-letter days of the year, — Thanksgiving, directing thought upward; Christmas, leading outward; Flag day, making its appeal for patriotism; Memorial day, asking the backward glance; Authors' and Statemen's days, inviting acquaintance with the helpful ones who have shared our world-home with us;— should stand Arbor day, so modestly yet unflinchingly urging its right to a place within the favored group? Then it must be that we have not given the sober, second thought so neccessary to all clear comprehension.

Like its associates, Arbor day, is or may be, an educational impulse lifting and leading our minds away from daily routine and detail to the broader fuller view which cannot be held within the compass of any single day's work.

Out of discovered value, recognized need and threatened danger grew this general and practical allegiance to trees. And if we would realize the full significance of Tree day we must listen to testimony from many lands. What the value? What the need? And what the danger?

With answers to these questions clearly in mind, we again say "strange,"— strange that so many of us living near trees and receiving of their service, should yet remain more or less ignorant of our indebtedness to them, or at least unappreciative.

Perhaps one of the best ways for understanding our relation to trees, is to understand *trees*, so far as we may. Some things about them we already know. More, much more, we may discover by personal observation. Still other facts we must take as information from persons and localities of wider tree-experience than our own.

Would we realize keenly our indebtedness to trees? Imagine, for a moment, a day of tribute — some one day when all the trees of our land shall lay their offerings at our feet. A novel picture to be sure; yet easily formed, I think.

Bountifully and rapidly do the gifts of fruit, fuel, lumber and all the varied materials of merchandise accumulate before us. Does the picture seem indistinct as to amount? Then we will call to our aid the tables of statsitics which by the way, find it impossible to express their records without reaching far beyond the first two periods of our notation.

We must not overlook the less tangible gift of the beautiful with all its attendant culture effects; nor that of the wonderful living mechanism, so silently and mysteriously working out its life purpose before us.

Is the collection now complete? "No," say our friends from the Old World, who have gained their knowledge in the hard school of experience. "Other gifts are to come which rich and poor alike enjoy."

And we are told of modified temperature; of purified air; of preserved and increased water-supply; of fertilized lands; of crops protected from sudden changes in temperature; of tempered winds; of prevented floods; of preservation of property, comfort, life and civilization; and of all the train of consequent blessings. Do we feel that it is too much to believe? Every item comes verified from one or another quarter of the globe.

Can we not plainly see the trend? And is not ours both the priviledge and responsibility of helping to avert the threatened danger? That the work is largely for the future does not lessen its importance. It has been wisely said that "He best pays his debt to the past who makes the future most his debtor."

Various are the means employed for arresting the decrease of forests. The need for more general and complete knowledge of trees and their requirements has taken shape in many European countries in the establishment of schools of forestry; and in the United States by the formation of forest commissions, forest bureaus and the appoinment of forest commissioners.

Preservation of existing forests is being brought about by the setting off of the government forest reservations. Several million acres in the west are already thus preserved.

Individual states have also made various kinds of restrictions for the economical use of forest timber.

Then there is the need for replenishment of forests. Here Arbor day slips into place unchallenged; for "any time" for the accomplishment of an object is too apt to be "no time." That co-operation of the children be enlisted in the observation of this day is an absolute necessity. For with the ever present need for forest preservation must be the continued need for interest in tree cultivation.

Do we ever, I wonder, so lose sight of the significance of the day as to allow its observance to become an empty form? If first loyal to the trees, ourselves, we shall surely think less and less of programs for the day and more and more of the genuine tree-study and care.

No tree can reveal its many points of interest in a single day: but why may we not in observance of Arbor day select certain trees for special objects of study and care during the year. Why may we not also devote a portion of the day to the care of trees previously noted as needing special attention? What a valuable setting would such work prove to the regulation literary exercises which are considered so important a feature of all celebrations.

Arbor Day—When and How to Observe.

Arbor Day is now a regular American institution. From a small beginning in 1872, it has grown to be a school frolic, enjoyed by scholars and teachers alike, and, what is better than all, the homes of our land claim their share in the happiness. The wise man who started the ball, away out in the treeless western state, has lived to see Arbor day kept as a festival in nearly every state in the Union. Of course in a country so broad and long as the United States, there could be no one date suited to the climate of all. The season that is just right for tree-planting in Florida finds the soil of Iowa still frozen hard; the flowers are blooming in Texas before the forests of Maine can boast a few swollen buds. So the wise ones who planned for this gala day were puzzled about tha best date.

After trial of many plans, they adopted the only one at all feasible, and all along from Washington's Birthday, in the extreme south, up to early May in the northernmost states, Arbor day has taken its place, and will no doubt hold its own among the holidays of the American people. It has done a wonderful work among the children, not only in its influence as a practical factor in the beautifying of the yards and streets about the school buildings: but best of all has been the impetus given by it to the study of nature. The very fact that once every year the youth of our country may prepare for a day devoted to trees, has aroused them to observe and ask questions, and the coming generation will know more about them than did their fathers and mothers.

Each locality has its own methods for celebrating the day, and from year to year they are varied enough to keep up a healthful interest. Generally there is a gathering of scholars and friends, music by the children, recitations and essays, talks about trees, quotations about them from many great writers, and bright little speeches from visitors — these and other things that are suggested by the occasion. Then for the practical part of the tree planting; the scholars march about the grounds, with banners flying and music swelling on the breeze, until they reach the spot where the young trees await their coming; there they halt, the trees are planted, and the name bestowed.

Often the trees are named in honor of some distinguished person, or some dear friend of the school, a favorite teacher, or superintendent. Then a chosen one will explain the name and give a sketch of the person thus honored. Sometimes the children plant many varieties of trees and each child assumes a name; then, in turn, they describe their own special tree, where it originated and all about it. Sometimes a class, or a department, or even a whole school select a tree and claim it for its own. A pretty idea would be to have the scholars vote for a favorite kind of tree, and each give the reasons for his choice.

One can readily see what an interesting program might

be made for Arbor day. If the children are too small to make speeches and understand the whole affair, a wise teacher might gather her little flock about her and tell them much that would please them. Where children do not attend school, or are taught at home, let the mother make a family picnic, and have each child bring a leaf or branch, with the promise of a story from mother, or a little speech of explanation from father or elder brother.

Even the very youngest child will have pleasant memories lingering about the word "trees," and Arbor Day will have a place with such bright spots as Thanksgiving, Christmas, or Fourth of July.

—*E. A. M.*

God's House.

This is God's house; the blue sky is the ceiling,
This wood, the soft green carpet for His feet,
Those hills, His stairs down which the brook comes stealing
With baby laughter making earth more sweet.

And here His friends come, clouds and soft winds sighing,
And little birds whose throats pour forth their love,
And spring and summer, and the white snow lying
Pencilled with shadows of bare boughs above.

And here comes sunbeams through the green leaves straying
And shadows from the storm-clouds over-drawn,
And warm hushed nights, when Mother Earth is praying
So late that her moon-candle burns till dawn.

— *Frederick George Scott.*

How to Plant Trees.

By A. D. Binkerd, M. D.

One of the first and most important considerations is the adaptation of the kind of tree to the soil which is to become its new home. It would be useless to plant a weeping willow or a swamp cypress on a high, dry, and stony hill. None of the genera which naturally select elevated and dry localities should be planted in low and swampy grounds. The constituents of the soil may vary greatly, but the constant supply of moisture in the new locality should vary but little from that in which the tree to be transplanted originally grew.

Any kind of tree whose stump sprouts freely after its trunk has been cut away will grow readily after transplanting, if the work has been properly done at the right time. The stump of the pine tree, and indeed of many of the coniferæ, rarely sprouts. Every one who has tried it, and has succeeded knows what a triumph it is to nurse into vigorous life and growth a pine tree or a hemlock tree after transplanting it.

The best time to plant trees is in the spring before the buds have begun to swell. The top and branches should be well cut back. If this be done in the fall, previous to transplanting, so much the better, as it saves the tree much vital force.

To insure the growth of a tree, it should be removed with the greatest of care, so as to keep intact as many of the rootlets and their terminal spongioles as possible. The sooner a tree be planted after its removal the better are its chances for growing. Within certain limits the smaller the tree and the larger the root the surer it is to grow.

The place a tree is to be set should be thoroughly prepared by spading up the soil to the depth of two feet or more;* then filling up with loose, rich soil to the proper height. The tree may now be set into the place prepared for it. The surface of the fine soil upon which you set the tree should be adapted to the inequality of the roots, so that the tree will stand erect and alone. While the fine soil is being sifted upon the roots, the tree should be churned up and down with a gentle motion, so there be left no empty space under and around the roots. A pail of water should now be poured on the soil about the roots (this should be done with watering can or sprinkler,) so as to insure their close embrace and to afford some food for the fasting tree.

The soil should not be heaped up around the tree, but pressed down, but not too firmly, to the level of the surrounding surface.

The ash, the oak, the chestnut, the hickory, the walnut (black and white,) the maple, and the tulip all respond readily to the above treatment.—*Sel.*

*Note.—In sandy soil or in drained ground this will do, but in clayey soil the hole must not be dug too deep, as it forms a reservoir of water which will often kill the tree.

Benefits of Arbor Day.

Arbor day will make the country visibly more beautiful year by year. The school children will be put in the way of living upon more friendly and intelligent terms with the beautiful nature which is so friendly to us. In the state of New York when the teachers were requested to express their choice by vote for the best American poem on trees the majority of the ballot were in favor of Bryant's "Forest Hymn." Are not such voters likely to justify that choice by illustrating in the schools the noble sentiments of that hymn? When, for three successive years, a vote was taken in the schools of New York on the selection of a state tree and state flower, did not the discussions among the scholars and with their teachers and parents and, best of all, their own study and observation, while preparing for the Arbor day ballots, prove suggestive and stimulating to these half million of voters? Interest in Arbor day has been greatly promoted by the large prizes offered in several states for the best kept district school grounds. What enthusiasm and rivalry was aroused in Wisconsin when for two successive years the governor offered $1,000 to be distributed to the counties that showed the greatest improvements in their school yards. One of the educating forces of Arbor day begins when children are thus led to plant, not only trees, but tree seeds, acorns, nuts, drupe-stones or pits and then to observe the wonderful miracle which the tree-life they have started is working out before them and watch the mysterious forces of these living germs, their marvelous assimilating power, carrying on such a chemistry in their underground laboratory, linked with the delicate apparatus of the leaves, which transform soil and even filth into living forms of surpassing beauty and fragrance. The trees which children plant around the homestead and watch from seed to shoot, from bud to limb, and from flower to fruit, will be increasingly prized with a sentiment of companionship and almost kinship as they grow into living memorials of happy, youthful days. Arbor day has proved as memorable for the home as the school, leading youth to share in door-yard adornments. Much as has been done on limited school grounds, far greater improvements have been thus made on the homestead and and the roadsides. The home is the objective point in the hundreds of village improvement societies recently organized.— *Geo. William Curtis.*

How Arbor Day Came to Be.

Secretary Morton writes in answer to a letter:

"I can hardly answer the question as to how the thought which Arbor day embodies came to me.

Our mental processes are so enigmatical that they puzzle us beyond solution. We only know that we try to think of some way to accomplish a given object, and that when we intently persist, if the object is a good one, we almost always succeed, and I suppose that in looking upon our treeless plains so many years, and endeavoring all the time to make this home of my children and their dear mother comfortable and beautiful, by planting orchards and groves I came to think that to set apart one day in each year and consecrate it to tree planting and call it Arbor day, and stimulate by premiums on that anniversary a wholesome rivalry and emulation among all the people, would be a good thing for Nebraska. And so it was instituted just as I originated it."

Flowers are the sweetest things that God ever made and forgot to put a soul into.— *Beecher.*

Literature and Nature.

By Martha Persis Smith.

Oh world as God has made it,
All is beauty,
And knowing this is love,
And love is duty.
— *Robert Browning.*

IN these days much is being done along the line of teaching the child to see the beauty in the "world as God has made it," of educating the eyes to look, the ears to hear, and the soul to feel, in the out-of-doors which belong to him, as to every one of us who enters in to the nature life. How many of us have grown up as those who "having eyes see not," who have never learned the alphabet in Nature's book, till after many years the awakening has come, and with it the sense of what beauty and knowledge we have missed.

To some of us has come, and still comes, and may come to our children, with the larger appreciation they, themselves, have gained, what we may term translated truth. And this brings me to the thought in mind, the work in memory verses, or "memory gems," as they ars often called.

We teach the children the bit from *H. H:* "And asters by the brookside make asters in the brook," and the thought of the poet comes to them giving asters a new beauty. Tennyson's "wearing the white flower of a blameless life," with a little explanation or suggestion, and the white flowers bloom with new loveliness. Wordsworth's dainty bit:

My heart with pleasure fills,
And dances with the daffodills,

adds to the gay, yellow spring flowers. That is what I mean by translated truth.

When a class repeat thoughtfully and often

"For the earth, and all its beauty,
For the sky and all its light,
For the dim and soothing shadows
That rest the dazzled sight,
For the tokens of Thy presence
Within, above, abroad,
For Thine own great gift of being,
I thank Thee, oh, my God!"

can not a fuller, deeper sense of the beauty of earth, and sky, of the "peace at the heart of Nature," and in "all the tokens of His presence" steal gradually into their hearts, helped by the musical words of the poem?

And not only in this line of poetry in connection with the outside nature world, but along others we find the truth, or the new thought coming so clearly and definitely in the many many verses or quotations; and by the way do let us be sure they are "gems," which we may teach. In one class of which I knew, every child had some quotation, which he could say individually. It was very amusing to hear one little lad, who was noted for his desire to make himself heard, often to the weariness of his teacher, say in his clear, emphatic tones:—"Men are born with two eyes and one tongue, in order that they should see twice as much as they say." And another youth, who was decidedly a trial to those who had to cope with him, would give Shakespeare's "How poor are they who have not patience!"

The old cry may come, "There is not time for all this." Every teacher knows the multitude of things to be done, in what sometimes seems but half time enough for half of them. In some schools there is time given for this work, under elementary lessons in literature and history, as well as in connection with the science lessons, and also in the language; but where no provision is made, there are minutes before bells, a minute or two between classes, and in the Friday afternoon general period, and there always is the board, where quotations may be written, or printed, that, if short enough, the children will learn unconsciously. Keep certain spaces on the board for these bits, and try the classes to see if they will not readily learn some of the following or others, not too long,

"Little things, on little wings,
Bear little souls to heaven."

"Do the next thing."

Whatever any one else does or says
I must be good.
— *Marcus Aurelius.*

"'Tis always morning somewhere,
And above the awakening continents,
From shore to shore,
Somewhere the birds are singing evermore."

It is a help, too, to keep inspiring things things like these before the eyes of the children. We talk of unconscious influence. Here is one chance to try its working and watch the result.

What are the Children Doing?

"Do you ask what the children are doing?
I'll tell you. 'Tis Arbor Day,
And the growth of our trees they're renewing
By planting along the way

New trees and shrubs, that, unfolding
When other spring days shall appear,
Will gladden our eyes, as beholding
We watch the new life of the year."

Games in the Primary Room.

By Olive M. Long, St. Paul Minn.

WHEN we visit a kindergarten during its play time, we realize how important, as well as delightful, a part the games are in the development of the child, and it seems rather like neglecting a useful factor in his further development, to drop them entirely when he enters the primary room.

Here they must, of course, be relegated to a less important position in the school program, but every primary room has some "physical exercise" or "recreation" period, and the game is the truest recreation for little children, as it is a restful change for mind as well as body.

And when we see some slow, heavily-booted little fellow, forgetting his self-conscious awkwardness as he tries, however clumsily, to imitate his lighter comrades in personating the insects, birds, and winds, we realize that besides pure enjoyment, there is a very valuable training in it all. Even those who, at first, are the shyest about taking part, soon fall under the spell, if left, for a time, to collect their courage in unmolested peace.

But as to the *kind* of games. The program of topics for the year in the kindergarten is rather different from that of the primary school, so that often the games most delightful and suggestive in the kindergarten, would be without any special appropriateness in the school-room. That a game is pretty and dramatic is not always a reason for adopting it, unless it reflects, more or less directly, the prevailing thought of study at that time. When the children have been studying the horse, the game of the blacksmith shoeing a spirited steed would not be inappropriate, but to bring the same game into some balmy spring-time week, when the children are eagerly watching for the home-coming birds and the first flowers, and their minds are full of the awakening year, would be, to say the least, unnecessarily ill-chosen.

The part of the school-work with which the games seem

most easily and naturally connected, is the nature-study and the "story-time," whether these be down in one's program under the name of science, language or literature,— and this not so much because these studies afford suitable subjects for games, as because the games are most helpful in making these lessons clearly understood.

The Columbus Game.

We have seen a class listening with apparently absorbed interest to the story of Columbus, and on asking some child whose great eyes have been riveted on our own, to tell something about Columbus, have found that those same dreamy eyes have been looking into visionary worlds beyond our words, for the child explains that Columbus was an Indian, and,— in reply to further questioning,— that all Indians live in Spain. But his face is lit with a very different and alert expression of wide-awake interest, when he sees the school-room converted into a map, with a chalk line defining America, drawn — under the children's direction,— at the west end, and perhaps is himself one of the crowd of Indians on the shore, watching a small Columbus sail to land and kneel on the new-found shore, where, with the standard of Spain (the shelf-curtain,) in one hand, and uplifted sword (a pointer,) in the other, he claims the land for his king and queen.

And how should such a play be conducted? Though under the guidance of the teacher, it should really be managed entirely by the children, to be of real benefit. Having heard the story, they decide the location of the places according to the points of the compass,— and the dullest child's imagination can "make believe" the room is miles wide, and change the minute's sail into one of long weeks. Then the Columbus must, of course, be able to first explain where he is sailing, and why, and all about it,—and what child is not eager to prove his right to the hero's role? And his sailors must first tell what *their* part means, and the Indians, (including our dreamy little boy) before they may have the joy of joining the privileged group on the shore, must first know and tell what they are, where they live, and whom they are watching with such surprise.

And when Columbus does kneel to claim the land, he must choose his own words; he knows the substance, and when he expresses it in,— "This country belongs to Spain now," it answers every purpose.

Such a game would be too long to play often, and it may seem as if there were no time in an already crowded program, but there are as many others as there are studies,— some very short, as when in the fall, the children play they are the scurrying leaves, and with a puffing wind to help them, whirl and fly about during the odd minute between lessons, when they are growing tired, and need just the brightening that a moment's brisk exercise can give.

Or, perhaps, the games may take the place of an out-door recess in rainy or cold weather,— or to alternate with the more formal calisthenics, and sometimes, when the development of the game is almost as much a lesson as the lesson itself, it may be slipped into the last five minutes of the "language" period itself.

Old games are dropped and new ones taken up as the prevailing thought of study varies with the passing weeks. During the fall when they are noticing the earth's preparations for winter, the children may weave into their games the life story of the plants and insects they are studying. For many of these, appropriate songs can be found in kindergarten song-books, and to this pretty accompaniment the children may play they are caterpillars, spin their cocoons, (with motions learned by watching the real caterpillar,) and be gently carried — or rather *assisted* — away by other children, to be laid by for the winter,— or anticipate the season by bursting into life as butterflies; — or they may gather the corn they may have been studying, carry it to an imaginary mill, and show how the wheel goes round.

But most of the games the teacher will want to plan for herself, (and it is very easy after the first) and where there are no appropriate songs, it is surprising to find how many little poems on any subject may be found in the educational papers,— and how many of these poems fit into tunes already known or easily found.

The subject matter is inexhaustible. When the autumn is over, and they have finished playing they are grasshoppers, rabbits, and the falling leaves from the tree; have picked all the apples in the orchard, and have, as Pilgrims, landed on Plymouth rock,— winter comes, and the realm of "Jack Frost" is opened to them.

After they have been studying water in some of its changing forms, with a real tea-kettle pouring out its clouds of vapor before them, does it not fix the facts more firmly in the children's minds, as well as make a delightful review, to have them play that they are the particles of water-dust floating in the air? Then the teacher asks — not tells them — what happens next, and they answer, and illustrate, by clinging to each-other in twos and threes, and so on till they become "drops" ready to fall as rain,— only now a cold wind, (and they tell that most of the cold winds come from the north, and any little girl who wants to be the North Wind must of course know from which side of the room to blow) comes gliding down, and as she touches each "drop," it hardens into a snowflake, and a snowflake must have, — how many? — oh yes, *six* points,— and they form as nearly as they can into a six-pointed figure, which takes twelve children,— so that the next time they play it, they will have to look out for themselves that there is the right number in each drop. And then the sun may come and melt them, or the still frozen snowflakes may drift away to their seats singing some pretty snow-song.

In the spring they are the returning birds, who build nests, (of other children,) and teach the little birds how to fly. And when they study the arrangement on the stems or the awakening buds, we can much more safely count on our friend of the dreamy eyes knowing what we mean by "opposite," if we transform a chair into a stem, and let two children stand upon it facing each other, while two stand on opposite sides of the floor below, and two others kneel below these.

The children themselves must do the arranging, and discover that the children on top must be the largest, because the lilac twig they hold in their hands has the largest buds at the top.

And does not all this, besides giving alertness of mind, and lightness of hands and feet, help the other school-work in awakening in the children the spirit of courtesy to each other, and gentleness to the other little dwellers in the world of nature,— the animals and plants?

The Grave in the Forest.

A great tree fell in the forest,
  With a crashing, thunderous sound:
Slowly and terribly stretching
  His ponderous length on the ground,
And lay at the feet of his brothers
  Mangled and dead
Just as a mighty giant
  Would pillow his head.

So he lay untombed and forgotten,
  With his shattered boughs forming a bier;
With never a requiem chanted,
  With never a flower or tear.
But a troop of forest children.—
  Green mosses and lichens gray,—
The woodland's own little darlings,
  Found out where the dead tree lay.

And with never a thought of its greatness,
  Through sunshine, through rain, through sleet,
They have woven the loveliest mantle,
  And covered him head and feet;
A mantle of costliest texture
  Of varied and rare design.
    These loving and tender mosses,
  These lichens drawn up in line.

I have been all through the woodland,
    And, just as I saw it to-day—
The peacefullest place in the forest
    Was where the dead giant lay.—*Sel.*

The Song of the Rain

Six children should be chosen as raindrops.

To the great brown house where the flowers dwell,
Came the rain with its tap, tap, tap!
And whispered, "Violet, Snowdrop, Rose,
Your pretty eyes you must now unclose
From your long, long wintry nap
From your long, long, wintry nap;"
Said the rain with its tap tap tap!

"Raindrops" walk, seat room, tapping at desks, bend down and pretend to whisper

From the doors they peeped with a timid grace,
Just to answer this tap, tap, tap!
Miss Snowdrop courtesied a sweet "Good-day"
Then all came nodding their heads so gay,
And they said, "We've had our nap!
Thank you, rain,
for your
tap, tap, tap."

"Snowdrop, Violet and Rose" rise in their aisles and "courtesy a sweet Good-day"

All sing the rest of song together. Rising and coming toward front of room.

Music for this exercise on page 142 of this number.

Language. II.

In the First Grade.

By SARAH C. BROOKS, Supervisor Primary Schools, St. Paul, Minn.

HAVING established the necessity or language culture and of a clear conception of the general aims of language lessons, (December number) I shall try to give some helpful details of the work by grades.

The material for language lessons, as previously stated, is to be found in objects of nature study and selections of literature.

The aims of these lessons with little children are to encourage free speech in order to test accuracy of information and to reveal to us the faults in construction which are so be remedied, to enlarge the vocabulary, and to increase the accuracy and fluency of spoken and written language.

Let us make "nature topics" the basis of this, and literature of a subsequent paper.

Our energies will be greatly conserved if we endeavor to have a definite aim in each lesson, or set of lessons, and a general comprehension of what the year's work should do for our pupils.

Our teaching will be more effective if we begin with the conviction that development is not all of an ideal recitation. Under this head, let me beg you to read, and ponder upon, Chapter 4 of Rein's "Pedagogics." May I also call your attention to the last chapter DeGarmo's "Essentials of Method," published by D. C. Heath & Co.

Suppose we take, as the basis of our lessons, *Outlines of Nature Work*, as published in PRIMARY EDUCATION. This set of articles afford us seasonable topics from September to June, and by following their lead in language as in reading, we arrive at a method of correlation of studies.

Language being a means of expression, we give the children time and opportunity to become acquainted with school ways and interested in school subjects before they have any definite exercises in this direction.

Objects are observed, outlined by laying, reproduced by free cutting, drawing and modeling. From these exercises and the conversations which accompany them, children are learning the meaning of such terms as round, square, wide, narrow, front, back, above, below, and of the words denoting color. These terms are likewise added to the stock of words already familiar, and the vocabulary increases by slow degrees.

Some bright day in September, while acquaintance is yet young between yourself and the children, go out with them into the fields. "The fields" may mean the school yard or a vacant lot, or the park,— any place where plants and trees grow, and insects and winged creatures are wont to congregate.

Beside the children take with you a grape-basket, a trowel, a jar with perforated cover, and *a plan*. Don't forget the plan. It may not be fashionable, but it will prove exceedingly useful.

Are you to select a tree for observation, procure a plant or two for observation in the school-room, capture some insects for the same purpose, search for cocoons? Perhaps it might be well to combine two or more of these purposes. Anyway tell the children the reason for the outing that they may be alert.

Do you return with plants, tree seeds, and one or two insects? If so, the moment for beginning specific exercises has arrived.

Question for number and vividness of observations made while abroad, as these are recalled through the aid of memory.

Call upon individuals. Have readiness expressed by position, rather than by waving hands. (Ask questions first then call names.)

"Where did we go, Tom?" "What did we see, Mary?" "What else, Fred?" "What else, Margaret?" "What else, Don?"

"What was the butterfly doing, Alice?" "The grasshopper, Mary?"

"What did we bring home in our basket, Kitty?" "What in our jar, Eddie?" "How did we get it into the jar, Morris?"

"Now, I wish some one to tell me where we went and the things we saw when there. Was anything forgotten, Howard?

"Some one tell me what the butterflies and grasshoppers were doing.

"Some one tell me the things we found, and how we brought them home.

"Now, can anyone here remember enough to tell the story of our walk, where we went, what we saw, and what we brought home with us. (Commend the effort.) Was anything left out, Don? What?

Throughout the first exercise of this kind, make only mental note of faulty speech. Encourage speech first. Make criticisms after confidence is established.

Give the insects commodious quarters, easily constructed of two-thirds starch box and one-third wire netting, appoint certain children to minister to his necessities and leave him for several days without particular comment.

Proceed to the study of plants as wholes. Plants of the composite family are recommended for their number and availability, because of the peculiar manner in which their seeds are distributed, and because the obsevation of several leads to a comparison of characteristics and a more or less logical conclusion as to their relationship.

Second Lesson. The Plant as a Whole.

Object. To test the pupil's ability to recall what was observed of environment and peculiarities of the plant, and to call attention to other characteristics.

Encourage children to make complete statements. Call upon individuals first, and then for volunteers, as suggested above. Have all take part in the recitation.

"Tell me, Mary, what we brought home in the basket. Yes, I have kept it fresh with water for our lesson to-day.

"Where did we find it, Tom?" "Did it seem to like the shade or the sunshine, Alex?" "Did it have any plant neighbors, Don?" "Any insect (animal) callers, Nellie?" What were the callers doing, Florence?"

"How much of this plant did we see above ground? What color are these parts? How much was below ground? What color? Can you imagine why? Yes, like our feet. Some day we may see what else the roots are like.

"All the children please name parts of plant as I touch." "Flower, stems, leaves, roots."

"How many parts the plant has! Tell me all these parts, Walter, and touch as you name them."

Proceed with the review of different points in the lesson, as in lesson one,— Where found, under what conditions, parts seen above ground, color; parts below ground, color; all the parts of the plant. Draw from some courageous child the whole lesson.

Begin the next lesson with a review. Bear in mind the necessity of individual recitation and general participation by children.

When the review is over, it may be a good plan to name the plant.

"Let us see what more we can learn about the thistle." Have pupils observe and tell shape and color of roots; shape, color, and feeling of stem; peculiarities of leaves; arrangement and color of blossoms.

Gather up results as in former lessons. Later in the day show the children the many little flowers in the great flower house. It may impress the lesson to compare the little flowers to rooms in the great house, each room containing a mamma flower, a papa flower, and a seed baby. The great flower house is what shape? What shape is the head? This flower house is sometimes called a head. Gather up the points of the lesson.

By this time we may begin to ask for better statements, such as use of correct noun and verb forms and of one negative instead of two.

Close the lessons on the thistle by a consideration of the uses of the parts of the flower, including food getting by the roots, and a consideration of whether people like the thistle.

How seeds are distributed.

For the second series, select some such plant as the dandelion or aster.

Begin by *comparison.*

They both bloom in the fall. They both have flower houses with many rooms. Their seeds have silken sails. The wind is the friend of both, because he carries the seeds.

Contrast. The thistle is straight and tall. The dandelion is flat upon, or near the ground. The thistle blossoms are on the stem with the leaves. The dandelion blossom has a stem of its own. The thistle blossom is purple, the dandelion, yellow. The thistle has many slender roots. The dandelion has long, strong roots.

Who like the dandelion? Why? Who do not like it? Why?

Preserve the general form of lesson, enlisting the interest and efforts of all children, gathering up the points made, and encouraging efforts to tell the whole connectedly.

Consider one more plant, as, the daisy. Compare it with thistle and dandelion. The new feature of comparison will be the ray flowers, yellow in the dandelion and white in the daisy. Contrast. Call for sharp eyes in observation of new features. Use of plant. Require a complete description.

At this stage children should be able to put together two or more statements; as,

The roots are brown.

They are like little threads.

The roots are brown, and are like little threads.

Observe and describe the milkweed, which is like plants previously described in blossoming in the fall, and in having soft white sails for its seeds. Describe parts. Make a study of the seed cradle.

If you have been fortunate enough to procure a milkweed caterpillar, the children will observe and tell the use of this plant to the caterpillar. Numerous other incidents of the interdependence of plants and animals will also be discovered, but these facts of science do not really lie within the province of a language paper.

The Heart of the Tree.

What does he plant who plants a tree?
He plants a friend of sun and sky;
He plants the flag of breezes free;
The shaft of beauty towering high;
He plants a home to heaven anigh;
For song and mother-croon of bird
In hushed and happy twilight heard—
The treble of heaven's harmony—
These things he plants who plants a tree.

What does he plant who plants a tr. e?
He plants cool shade and tender rain,
And seed and bud of days to be,
And years that fade and flush again;
He plants the glory of the plain;
He plants the forest's heritage;
The harvest of a coming age;
The joys that unborn eyes shall see—
These things he plants who plants a tree.

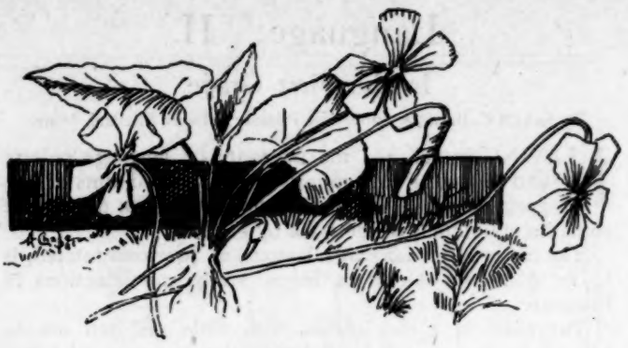
—*H. C. Bunner.*

April.

"I think April is the best month to be born in. One is just in time, so to speak, to catch the first train which is made up in this month. My April chickens always turn out best. They get an early start; they have rugged constitutions. Late chickens cannot stand the heavy dews, or withstand the predaceous hawks. In April all nature starts with you. You have not come out of your hibernaculum too early or too late; the time is ripe, and if you do not keep pace with the rest, why, the fault is not in the season."

—*Burroughs.*

"Jock, when ye hae naething else to do ye may be sticking in a tree; it will be growing, Jock, when ye're sleeping."



Two April Friends.

One morning, in early spring, a sweet wood-violet pushed aside the dead leaves at her door and peeped shyly out.

"I wonder if I have come out too soon?"

The mouse may have heard her voice; for he ran away as fast as he could go.

And there, right before her, where he had turned up the dead leaves, stood a pretty flower, clothed in a pink striped dress.

She looked at the little violet in a friendly way, and said, "Good morning, my little friend,—do you not know me?"

"I am the spring beauty that you loved so well last year; but I have had a very long sleep."

"I have had a long sleep, too," answered the other.

"But the raindrops tapped on my roof to waken me; and then a sunbeam came with a golden key and unlocked my door; and so here we are together again; and I am so glad."

And from that day, the wood-violet and the spring beauty have been the best of friends, and where you find one, you may look for the other.—*Introduction to "Leaves from Nature's Story-Book," Educational Publishing Co., Boston.*

Spring Beauty.

How the Children Studied Soil-Making.

By C. S. Place, St. Paul, Minn.

The children of the second grade had watched the opening of the buds and had talked of the beauty and use of the leaves whose growth they were watching, when the question arose as to what became of the leaves after they fell from the trees. Their teacher said they should go with her next day and find out for themselves.

That night each child took home a little note asking if he might go with his class to the river for a field lesson, and at the time for opening school the next afternoon, the whole class boarded a street car.

After a half hour ride the point was reached where the teacher had found the conditions favorable for the lesson on the formation of soils. Down to a grove at the foot of the bluffs the class went, and at once the dead fallen leaves attracted the children's notice. The teacher's only directions were to dig, and as soon as anyone thought he had found the answer to whisper it to her; on no account was he to tell anyone else what he thought he had discovered.

Like little beavers, too busy to think of running off to play, they digged. Then, one after another, with a cry of delight, ran to whisper to the teacher. She went from group to group, directing this one to a better place to dig, encouraging that one by telling him that his answer was in plain sight, and after about fifteen minutes of hard working and thinking,

every child had discovered for himself and had told the teacher that the leaves "broke all up and mixed with the sand and made dirt."

Into each basket was put a bit of loom in process of making, to prove to parents the new found fact. Then the children were led along the foot of the bluff, talking of the strange fact, until the soft sand attracted their attention. The teacher said "I wonder where the sandy soil comes from," and as she spoke she poked up a piece soft sandstone and crumbled it in her fingers. Instantly the answer came, "Why, the rocks crumble and make it." A little further on the eager scientist came upon a pile of clay soil, with lime stone bits at the foot of lime stone cliffs. One child said "Here is another kind of soil." "Yes, clay. I wonder if we can find how this is made." A glance up the cliff, and more quickly because of the discovery regarding the sand, the children told this story. As they climbed the bluffs their attention was called to the condition of the rocks near the top, and the children decribed just how they were constantly breaking off and tumbling to pieces at the foot, split up by water and Jack Frost.

The next day their pieces of rock and samples of soil furnished the text of an enthusiastic recitation, after which they wrote interesting and thorough individual accounts of their trip, which was not a picinic but a live, earnest lesson.

— *Sel.*

The Banishment of Slates.

By a PRIMARY TEACHER.

SLATES are to be removed from the Boston public schools! Safety and relief at last!

But what difficulties may be expected to follow their removal, such as a lack of paper in ample quantity, unnecessary waste of material, littered floors, etc.? In one school these difficulties have already been overcome, with only slight friction.

On the first morning of the new term all the slates were collected and the sponges and slate-cloths destroyed, and fifty-six blocks of plain manilla paper were distributed to the class. The blocks were not given to a few children whose hands were the cleanest, nor to the most troublesome ones to bribe them into good behavior; but after a short talk about their use and abuse, each child obtained a block. The children (second year pupils) wore told they must be careful not to soil or tear the paper, and to use it only when directed; that every sheet must be saved to be shown to the master of the school (when he wished to see them), and sometimes to be taken home to parents.

Blocks and lead pencils were then laid aside in the desks, and at once each child seemed anxious to show me that he could keep the new material safe and clean.

Drawing paper for the drawing lesson and ruled paper for writing were distributed as usual, and then came the event of the day!

"You may take your blocks for number work!"

The *study* of *number* was not made the important feature of *that* lesson, but the time was devoted to accustoming the pupil to the use of paper instead of slates. I carefully directed every step of the work, and went among the children to see that each direction was intelligently carried out, and then the blocks were put away. There was much surprise that no recitation, as usual, followed the work, but the children were more eager for the second lesson in the afternoon.

When it was time to tear off the first leaf, I assisted, that none might be mutilated, and though each child was eager to show that he could do it unaided, yet at the first sign of an awkward tear, he waited for my assistance. At the close of school all the number papers were collected and filed away.

During the second day, just as I was about to begin a lesson, I was called from my room. A sense of helplessness came over me, for I could no more say: "Take your slates and copy the work upon the board!"

But those precious blocks must not be sacrificed, so a few helpers were told to distribute ruled paper, and certain words for the dictation lesson were copied and studied.

The work was more carefully done upon the paper than it would have been upon the slates, because it could not be erased.

Later, while the children were filing out from their seats a loose leaf dropped upon the floor. The child was not to blame, but that accident multiplied by fifty-six would be disastrous, and something must be done to prevent a repetition.

The next morning the children found that strips of cardboard had been fitted into the racks (which formerly held the slates) upon the back of each desk, and thus a receptacle furnished for every loose paper.

Do I hear it whispered, "And also a receptacle for various contraband articles?"

The same discipline which keeps those articles out of the desks will keep them from the racks.

Then — "There are pencils to be sharpened."

There is a pencil sharpener in the dressing-room, and always some overgrown boy in school who will gladly study assiduously for the privilege of sharpening those *dreadful* pencils.

Three happy days passed; but on Friday afternoon a cloud settled upon the spirits of one precocious child. He was to be allowed to draw "just what he pleased," because his work had been completed before his mates. But alas! he had no slate! Fortunately that condition had been anticipated. Cheap manilla paper, so folded that a dozen squares could be roughly cut at once, was ready, and every deserving child received paper to use "just as they did a slate," and better still, the paper could be carried home. Ah! the very climax of content was reached, and paper, instead of slates, voted a success.

The Bluebird.

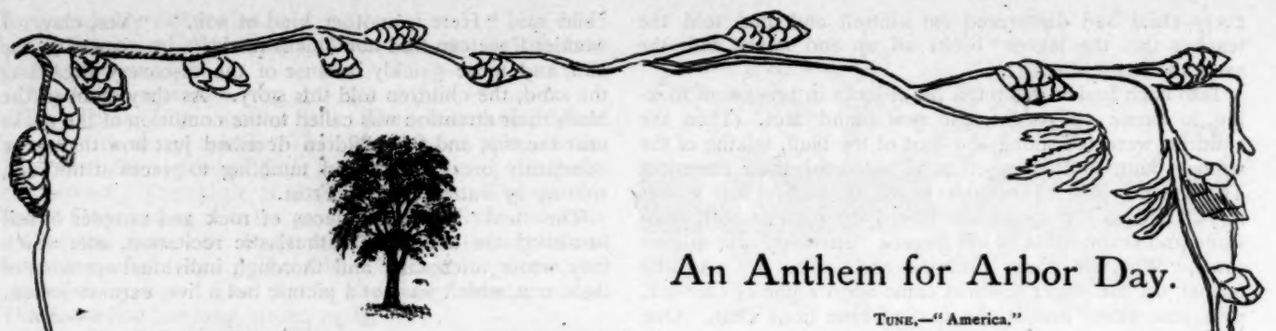
Listen a moment, I pray you; what was that sound that I heard,—
Wind in the budding branches, the ripple of brooks, or a bird?
Hear it again, above us! and see! a flutter of wings!
The bluebird knows it is April, and soars toward the sun and sings.
Never the song of the robin could make my heart so glad.
When I hear the bluebird singing in spring, I forget to be sad.
Winged lute that we call a bluebird, you blend in a silver strain
The sound of the laughing waters, the patter of springs sweet rain,
The voice of the winds, the sunshine, the fragrance of blossoming things;
Ah! you are an April poem, that God has dowered with wings!

— *Eben Eugene Rexford.*

The people of ancient Greece believed that in every tree dwelt a protecting nymph or dryad. These dryads were thought to perish with the trees with which they had come into existence. To wilfully destroy a tree was, therefore, an impious act, and was often severely punished.

Ye pine groves with your soft and soul-like sounds!

Coleridge.



An Anthem for Arbor Day.

MRS. EVA D. KELLOGG. WASHINGTON, D. C.

My Dear Madam:

I enclose you "An Anthem for Arbor Day," by the Rev. S. F. Smith, author of "America." It is a very beautiful poem, and I think the children who read PRIMARY EDUCATION may, many of them, be induced to commit it to memory. Nothing lives so long as Truth and a Tree. The instructor, therefore, who teaches Truth and Tree-planting, is doing a most beneficent work for posterity.

Assuring you of my continued and affectionate solicitude for those in behalf of whose welfare you are so constantly employed, I remain, with great respect,

Faithfully yours,

J. Sterling Morton

TUNE,—"America."

Joy for the sturdy trees!
Fanned by each fragrant breeze,
Lovely they stand!
The song-birds o'er them thrill,
They shade each tinkling rill,
They crown each swelling hill,
Lowly or grand.

Plant them by stream or way,
Plant them where the children play
And toilers rest;
In every verdant vale,
On every sunny swale,
Whether to grow or fall—
God knoweth best.

God will his blessing send—
All things on Him depend.
His loving care
Clings to each leaf and flower
Like ivy to its tower.
His presence and his his power
Are everywhere.

S. F. SMITH.

Primary Geography. VII.

The Effect of Animals on Soil.

By ZONIA BABER, Cook County Normal, Englewood, Ill.

If thy heart be right, then will every creature be to thee a mirror of life, and a book of holy doctrine.— *Thomas a Kempis.*

SIR JOHN LUBBOCK has said, "There is no species of animal or plant which would not well repay, I will not say merely the study of a day, but even the devotion of a lifetime. Their form and structure, development and habits, geographical distribution, relation to other living beings, and past history, constitute an inexhaustibie study."

The broken rock and organic matter, the cream of the earth, known as soil, is man's best legacy; and whatever adds to or subtracts from its value should be of vital interest to him. Its anatomy, physiology, and hygiene should claim his gravest thought. The influence of animals on soil is no small element in the preparation and preservation for highest usefulness.

This relation, however, was almost wholly overlooked until Charles Darwin, after thirty years of patient toil, made the earthworm immortal by giving to the world his "Formation of Vegetable Mould." This soft pink crawling thing was thought to have no other mission in life than that of dangling from the hook of some listless angler, for his pleasure or profit. The world was startled when he was proclaimed one of the greatest living agriculturalists.

Mr. Darwin estimates that there are on an average of 53,000 earthworms in an acre of garden ground; that for every acre of land in England ten tons of soil pass through the bodies of worms, and are brought to the surface every year. He says, "When we behold a wide turf-covered expanse we should remember that its smoothness, on which much of its beauty depends, is mainly due to all the inequalities having been slowly leveled by worms." While acting as a plow in changing the earth, that soil which is passed through their bodies for the vegetable matter it contains is fertilized. They also enrich the soil by dragging leaves into their burrows.

Though the earthworm only inhabits moist places, the drier, sandier areas are not without their husbandmen. There the industrious ant is to be seen, carefully carrying up the fine soils from below, which aid in feeding the plants. Professor Shaler has estimated that on an area of four acres where he made observations, the transfer of soil by ants was sufficient to make a layer one-fifth of an inch thick over that area in one year.

The Dakota farmer appreciates the relation of one animal, at least, to the soil; that is, the prairie dog. These little creatures, being of a very social disposition, congregate in villages or cities, covering, sometimes, an entire section of land. When they abandon their towns, as they do at the approach of civilization, man enters with that greatest of all civilizing weapons, the plow, to find instead of a tough, relentless sod, a mellow soil which requires little stirring to be ready for grain.

The mole, ground-mouse, beetle, wasp, hog, bird, cattle, and many other animals play a considerable part in soil distribution. It is estimated that a pig will turn over an acre of ground a year in search of food, while crawfish have been known to drain a swamp by boring through banks which obstructed the flow of the water.

Scientists are now telling us that the dreaded ghostly chimera, the invisible bacteria, are playing the great part in

Nature's role of taking the nitrogen from the air, forming nitrous soil.

To sum up the effect of animals on soil, we note: —

1. They aid in disintegration of rocks.

(*a*) Some animals bore into rocks; *e.g.*, Pholad bivalves.

(*b*) Others make openings in the soil through water, and air carrying acids reach the underlying rocks, causing disintegration.

2. They change soil.

(*A*) By reducing size of particles; *e.g.*, grinding of soil in gizzard of earthworm.

(*B*) By adding organic matter.

(*a*) By excretion; *e.g.*, droppings of birds, etc.

(*b*) By burial of foreign matter; *e.g.*, storing of food.

(*c*) By contributing their dead bodies to soil.

3. By loosening of soil, causing greater deundation.

It is always most desirable to study everything at work in its natural environment; but since the earthworm, by reason of its physical limitations performs its greatest feats by night, so he must either be studied by means of a lantern at night, or brought into the school-room. The result of his labors can be easily measured by taking a definite area of ground, *e.g.*, a square yard of sandy, clayey, and loamy ground; also the same area of barren, grassy, and tree-covered soil. Count number of burrows in each and compare.

Collect castings brought up in twenty-four hours from each, dry, weigh, and compare.

Collect a number of earthworms, put them in dampened sand, scatter leaves over the top; watch what becomes of the leaves and the change effected in the upper soil.

Select an ant colony; examine kind of soil in which they live; compare with home of the earthworm. Compare castings of the earthworm with soil brought up by the ants. Ants can be best observed at their work by making a home for them in the school-room. The following description of an ant-house is taken from W. S. Jackman's "Nature Study."

An Ant Home — How to Make It.

"Get a tinsmith to fasten a small moat, an inch deep and one and a half inches wide, around a smooth piece of inch board, one foot square. On this board, equi-distant from the moat on all sides, lay a pane of glass ten inches square.

On each edge of this glue a strip of glass, leaving small passage-ways at opposite corners. Fill the shallow vessel thus formed with finely sifted earth, and cover it with another pane of glass of same size as the lower one. Fill the moat with water. Take from an ant-hill a small box of earth and ants all together, and place them in a small heap on top of the glass. By thrusting a small stick into the den through the passage-ways left at the corners, to give them a place for a beginning, with a little care the ants can be induced to enter and go to work. Gradually remove the earth from the top of the glass, wipe clean, and keep in the dark by covering the whole with a pasteboard lid about two inches high. Food — crumbs, sugar, and bits of meat — may be placed under this on the glass." — *Jackman's "Nature Study."*

Outline in Geography for April.

First and Second Grades.

Relation of Animals to Soil.— What animals can you find in the soil? Which animals live in the ground all the time? What animals go into the ground for protection from enemies? Which get food under ground but live above ground? Which obtain food above ground but have homes under ground? Which build homes of earth above ground? Which hibernate under ground but live above ground in summer? What animals are found in sandy soil? In clay soil? In loamy soil? What animals are found in areas covered with trees? In barren ground? Effect of the different animals on soil; effect on vegetation. Special study of the construction and habits of ant, crayfish, and earthworm. Stories of beavers, prairie-dog towns, white ants of Africa.

Form.— Mold in clay: Crayfish and earthworm. Mold in sand: Area covered with ant-hills.

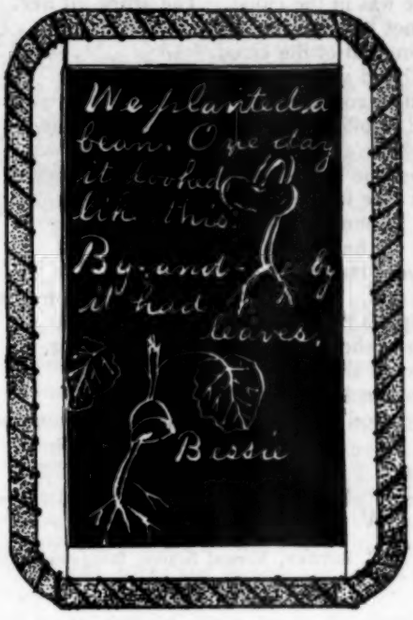
Color.— Paint: Crayfish, earthworms. Landscape painted each month since September; note effect of spring.

Draw.— Regions affected by ants, beavers, gophers, etc.

Number.— Compare number of different animals found in a square foot of clayey, sandy, and loamy soils. Find weight of castings brought up on a square yard in twenty-four hours. Compare depth to which different animals dig into the earth. Why different depths. Compare weight of material transfe red in twenty-four hours by same number of ants and earthworms.

References for Teachers.— "Soil," by Shaler, Twelfth Annual Geological Survey. "Action of Animals'," Text-book of Geology, Geikie. "The Formation of Vegetable Mould," Darwin. "The Study of Animal Life," Thomson. "Nature Study," W. S. Jackman.

Literature.— "Ant and Grasshopper," Æsop's Fables. "How the Mole became Blind," Cox Mythology.



BESSIE'S SLATE.

Bessie is a little Colorado girl six years old, and has been in school (first grade) only six months. This is her own work.—ED.

How Daphne Became a Tree.

By M. HELEN BECKWITH.

Peneus was the river god.
He took care of the raindrops that came to him.
He took care of the little brooks.
He led them to the big river.
He led the big river to the sea.
He was kind to the little fishes.
He told them where to look for food.
He taught them how to swim.
He loved them very much.
But he loved Daphne best of all.
Daphne was his own dear child.
She was so pretty. She had long golden hair.
Her eyes were like stars. She did not live in the water.
She liked the dry land. She danced under the green trees.
She slept on the soft moss.
The birds and bees were her playmates.
She did not care for other friends.
Sometimes she had a ride in a big gray cloud.
Then she would float over the river.
One day Cupid came to the river.
He came to get a drink of water.
Cupid was a dear boy, but he did love fun.
What a smiling face he had!
And his white wings were so pretty.
He had a bow and arrows.
The arrows were very little ones.
Some of them were made of gold.
He could shoot love into people's hearts with these.
Some were made of lead.
He could shoot fear into people's hearts with those.
It was not kind to do that, was it?
But Cupid loved fun, and sometimes he did it.
Apollo saw the little boy by the river and said:
"What do you have arrows for? You cannot shoot."
Strong men like me can shoot. We can shoot very far.
You are too little. What can you do?"
Cupid did not like this.
He said, "I can shoot too. I can shoot Apollo."
He took a little arrow made of lead.
He shot it at a rain cloud.

Daphne was in the cloud. The arrow hit her.
It did not hurt her, but it made her afraid.
She came out of the cloud.
Then Cupid shot an arrow at Apollo.
This was a gold arrow.
It filled Apollo's heart with love for Daphne.
But Daphne's heart was full of fear.
How fast she ran. And Apollo ran after her.
What a race it was!
"Stay, Daphne," he cried.
"I will not hurt you.
I love you, Daphne.
Do not run. You will hurt your feet on the stones."
But Daphne ran on and on.
How tired she was, and Apollo was so near.
What could she do?
"Oh, father, help me," she cried.
The river god heard her. What do you think he did?

He made her into a lovely green tree.
The leaves were so shiny.
The flowers were like her own pink cheeks.
Oh, it was *such* a pretty tree.
But Apollo had lost her. He felt very sad.
"You have won the race, Daphne," he said.
"But I did not want to lose you."
He broke off a big branch.
"You shall be my tree," he said.
"I will make crowns of your green leaves.
Men who do brave deeds shall wear them."

. . . . .

Would you like to see the pretty tree?
It cannot live where it is cold.
You may see it in a green house.
It has leaves like laurel leaves.
It has pretty pink flowers.
We call it Daphne.

How Animals Live. VI.

By A. C. Boyden, Normal School, Bridgewater, Mass.

Early Spring.

ONE of the signs of spring is the call of the frogs, which begins at twilight and often continues until the dawn approaches. Let the children be on the watch for the first "peep" of the frogs and note the fact against the proper date on the spring calendar which the teacher has placed on the blackboard.

In these blank spaces it is well to note all the facts of the coming of spring life, the first date of seeing particular birds, the opening of the buds so as to show the first leaves, new insects, and the first flowers of each kind. This plan stimulates outside observation and furnishes the material for comparing the associated phenomena, the warm days start the plants and the animals together, the opening buds, the early insects, and the coming birds; the warm rain, the softening soil, and the early flowers, all coming in turn as the conditions are ready for them.

The Piping Frog.

If you are so enthusiastic a naturalist as to obtain one of the little brown hylodes that opens the spring with his shrill call, you will find him a very interesting visitor for the school. In a jar with a little water and some aquatic plants in it he will watch all the operations of the school with apparent interest, and at unexpected moments when all is still puff out his little yellowish throat and give you a shrill, piping note which will be sure to call attention to him. The children are always interested in watching the little inch long visitor, counting the dusky spots and lines on his body and the little toes with the flat suckers on the ends; thinking how the little brown back will be easily hidden among the dry leaves by the edge of the pond; wondering why his bright eyes watch them so sharply.

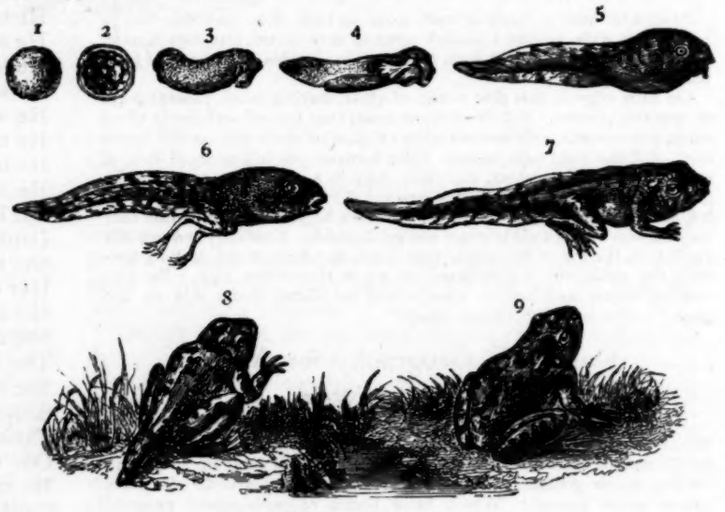
After watching him a sufficient time he can be carried back to his native pool of water again to begin his eating of little insects as well as the foul matter in the water, on the watch as ever for any snake that is waiting for a meal.

Frog's Eggs.

In the shallow water of ditches and along the edges of ponds will be found masses of jelly with dark spotted eggs scattered through them; these are frog's eggs. Associated with these are often found strings of egg masses quite similar to the above but somewhat darker in color, these are toad's eggs. Even the land loving toads come to the water to deposit their eggs, but the arrangement in masses or strings will usually be sufficient to distinguish them. Sometimes masses of eggs quite similar to these are found which develop into the long, brown newts instead of into the expected frogs.

These eggs can be collected by the children and kept in jars of water in the school-room, but care should be taken not to place too many eggs in the jar, also it is well to remember that they come from shady nooks and so do not thrive best in the direct sunlight. The changes that go on are very interesting and can be described by the children from day to day. A record of the dates of these changes placed on the blackboard is helpful in determining the time required for the various changes. If two jars can be arranged, one with frog's eggs and the other with toad's eggs, the comparison may be interesting.

The black spots grow larger, and soon they begin to lengthen so the shape of a body can be seen, then the movements become more apparent and the parts can be seen. Some bright morning the little tadpole breaks through the jelly mass to begin his new life. How long does it take? What did he live on while growing? Why should he be covered with the mass of jelly? What will he live upon now? One by one others follow his example and soon the jar is alive with little black wigglers: now is the time to add a few water plants with tender leaves on them, for the little tadpoles prefer vegetable food. These little plants will send out new roots into the water and be of great value in keeping the water pure. Now is the time to impress the relation of animal and plant life in the water each supplying what the other needs and together keeping the water beautifully fresh and pure.



Development of the Frog.

1, Egg of frog: 2, The egg fecundated and surrounded by jelly: 3, First state of the tadpole; 4, Appearance of the breathing-gills; 5, Their development; 6, Formation of the hind feet; 7, Formation of the fore feet and decay of the gills; 8, Development of the lungs and reduction of the tail; 9, The perfect frog.

A more careful examination of the parts can soon be made; look for the body and tail; perhaps the gill fringes on

the side of the head can be seen. How do they move? Where do they like to stay? What do they eat? How much of the time are they swimming about? Do they come to the top of the water to breathe? How can they breathe? Now is the time to compare two of the ways of which animals breathe air, by gills in the water, by lungs in the air. How do fishes breathe? frogs? watersnakes? etc.

As they grow larger the following changes can be noted—the gradual disappearance of the gills, the rounding body with its little head and mouth, the minute eyes, the flat tail. In time the legs begin to appear, the hind ones first in the frog, the front ones first in the newt. Now is the time for a new date on the blackboard. After patient waiting the front legs push their way out, and another date is added to the list. In due time the body changes shape, the legs grow to an appropriate length, the tail is absorbed, and one frog is ready for the pond, the toad for the garden, or the newt for the damp leaves and decayed trees, each to search for insects as food. Our blackboard calendar is ended.

This object lesson has impressed the children with the idea of life at work in a growing organisn, with its slow process of growth, with its regular changes, with its definite plan and purpose in all, with the perfect preparation and adaptation to the surroundings, with its uniform result. The child knows what it means for an animal to grow. Sketches on the board bring out the parts in larger size, hence adds clearness to the ideas. The children will want to make their own crude sketches from the animals. Many language stories and descriptions will be devised from this interesting study during the weeks.

The Frog.

Meantime it will be helpful to have a large frog in a jar with some water in it (not too much) to give opportunity for the observation of the adult animal whose development is going on in the adjoining jars. The following outline of points may be suggestive:—

Covering:—The naked skin, with its protective coloring, and spots to harmonize with its various surroundings. Compare with the gray, warty skin of the garden toad; tell them that in the warts is a liquid that is bitter to other animals and so protects the toad as he hunts for insects in the garden. Different colored frogs will only impress the idea of protective adaptations.

Movements:—Notice the difference between the two pairs of legs; think how each pair is adapted to its own work and both to swimming. Note the position of the frog, ready to leap or dive at any moment. On the ends of the toes are no nails or claws as on many other animals, for he burrows only in soft mud, and then uses his hard snout mostly.

Senses:—The large eyes, almost on the top of the head, ready to see in all directions from their projecting lids. How does he close them? Why does he watch us so closely? What would he do if he could? On the tip of the snout are the two little nostrils. Occasionally the voice is heard, and the motion of the throat seen. How much does he know? When does he croak?

Eating:—The fleshy tongue is of especial interest because it is attached at the front of the mouth so that it can be thrown out instantly at an insect, and it never seems to fail to strike it with the slimy tongue. The wide mouth is fitted for such a tongue. If you have ever watched it eat an earthworm the use of the different parts will be perfectly clear.

Breathing:—The motion of breathing may be seen in three places, the throbbing sides, the beating throat, and the pulsating nostrils. It swallows the air because the ribs are so short. By feeling of the body the cold skin tells us that the frog is a cold blooded animal. What others do you know? What warm blooded animals?

After careful examination the frog is sent back to his home, having been used as an illustration of animals whose young breathe by gills in the water and develop through the tadpole stage to an animal that breathes by lungs and lives both in water and on land. Such work should lead to a deep respect for the workings of Nature.

Seeds and Their Germination.

By CHARLES B. SCOTT, State Normal School, Oswego, N. Y

A Study of Beginnings and Development.

OUR boys and girls who are watching the buds unfold, are absorbing unconsciously with the thoughts of care and order another lesson scarcely less important. They are peering into the beginnings, and gaining the thought of development.

How carefully the buds are protected! In what beautiful order scales and leaves and flowers are placed! This is the first thought.

Hereafter is that bud so likely to be to them "only a bud," or will they begin to see the future stored up in it? May the bud not lead some of them to realize the importance of the beginning in which for them lies the future? May it not be the little leaven which shall prepare them for the thought of growth, development, evolution, which is one of the great thoughts in the education and life of to-day? Don't preach. Let the bud do it. Some may hear.

This thought comes to me most strongly as I take up the work of this month — seeds and their germination.

No other phase of plant life, not even the development of buds, has so much in it for the little children as the germination of seeds. They are babies together, — the seeds and the little folks — and the children are drawn to them, have a fellow feeling, appreciate their struggles and difficulties, enter into their work, rejoice at their success, enjoy the brightness and beauty they shed about them, join in the "well done" when the work of the seed is finished and other seeds have been formed.

If they really study the life of the seed and seedling, not merely their form and structure, may not our boys and girls see in the short life of the seed an epitome of their longer life? Perhaps. Much depends on what the teacher sees in the seed and plant — and in her boys and girls.

> "Flower in the crannied wall,
> I pluck you out of the crannies;—
> Hold you here, root and all, in my hand,
> Little flower — but if I could understand
> What you are, root and all, and all in all,
> I should know what God and man is."
>
> — *Tennyson.*

Importance of Study of Development.

The study of the germination and life-history of the plant is very important, from another point of view. The children should, from the very beginning, study the plant as a whole, and think of root, stem, leaves, and flowers, not as distinct things, but in their relation to the whole.

The little plant coming from the seed, with tiny root, stem and leaves, the baby can comprehend and think of as a whole. If he first studies it when it is full grown, he does not see the whole, but the parts. If he watches it develop from seed to maturity, his idea of the "wholeness" grows with the plant.

The study of the plant as a whole includes its whole life-history, as well as all its parts. The child does not know the whole plant, until he has studied the development of the whole, and of each part.

This study of development is equally essential, to the child, to an understanding of the relations of the parts to the whole. The child who has seen roots form and branch, and buds appear, enlarge, unfold, and produce stem and leaves and other buds, need not be told how these are related to the plant. When he has observed the roots reach

down into the ground, and watched the leaves spread out, and the flowers form fruit and seeds, he has the clearest possible idea of the work of each part for the whole.

This will aid not merely in future work with plants, but also in animal study. The knowledge of life history and the idea of development are as important in the study of animals as in that of plants. For many reasons the life history of animals cannot be so readily observed as that of plants, so the fundamental idea of life history and development mnst be obtained from plants.

The writer feels that too much emphasis can scarcely be placed in the primary grades, on the study of germination. Through it all the other plant work can be correlated.

Later, this idea of the life and life history of the whole plant may be supplemented and broadened by observing one or more trees throughout the year, and making the tree study a means of connecting and correlating all the plant work of the year.

Practical Advantages of Seed Study.

In addition to the educational value, the study of germination has practical advantages. Seeds — the more common, the better — are easily obtained anywhere at a very slight expense. They can be raised — during their first month or two, at least — in any school-room or home in the most crowded part of a great city, in any place where air and water can be had. Sunlight is not a necessity, although, of course, plants thrive better and are more apt to reach maturity when they get sunlight.

Seeds can be planted by the children in their homes, as well as at school. I have seen beans and peas growing and shedding their refining influence in the windows and door-yards of scores of poor homes, planted and cared for because the children had become interested in them at school.

If more attention is given to the study of seeds and leaves and buds, it will lessen the destruction of the wild flowers, which has been and will be one of the bad results of the growing interest in plant study.

Teachers and others are apt to think that the study of plants means the study of flowers, and their first efforts to cultivate a love for nature and the beautiful too often result in almost exterminating for miles around the most beautiful gifts of nature, the flowers.

We are going to cherish and protect the flowers, not destroy them.

Planting the Seeds.

Get fresh beans and peas grown last season. For the study of the seed itself, lima or other large beans and as large peas as can be obtained, are best. For planting, get the dwarf varieties of beans and peas. They mature more rapidly, and if planted early in April and given sunshine, will form flowers, pods and seeds before the closing of school in June.

Plant not more than an inch deep nor less than an inch apart, in sandy loam, not too sandy, not too heavy. They will not thrive or mature in sand; in heavy soil, such as clay, or in leaf mold, the beans are almost certain to sour and decay.

Window boxes six or eight inches deep, or deep flower-pots, give the roots needed room.

During the first week or two the seeds will grow as well in the dark as in the light. After this time they should, for the best results, be in sunny windows. If this is impossible, try, two or three times a week, to put them where they will have a sun bath for several hours. In sunless windows peas grow better than beans. Beans are more apt to decay.

The seeds should not be too near a stove, radiator, or other source of heat.

Teachers are apt to have their first planting, particularly of beans, decay, because kept too wet. The soil should be damp, not wet. For the first week or ten days, it is well to wet slightly every afternoon, and cover tightly for the night with thick paper or several thicknesses of newspaper. This will prevent too rapid drying or sudden changes in temperature. After the plants are an inch high it is unnecessary.

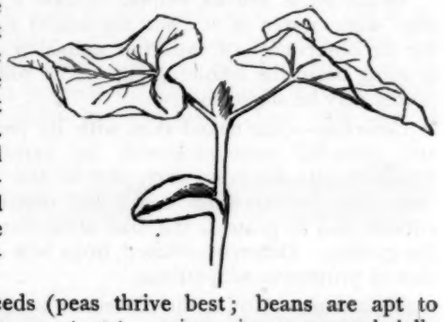
For the children of the first grade, it will probably be best to limit the study of germination at first to one plant, the bean or pea. The bean is somewhat more simple.

Perhaps in the second, and certainly in the third grade, the germination of bean and pea can be observed together and constantly compared. Later this may be supplemented — at least in grades above the second — by such seeds as the pumpkin or squash, sunflower, maple (if it can be found germinating out-of-doors), and morning-glory or four-o'clock. The corn is very difficult to understand, and it seems wise to leave the study of corn, wheat, oats and similar seeds, until later years.

If possible, have each child plant his own seeds. Several can have a large flower-pot together. Or the dirt in the window box can be marked off in squares. The holes into which the children are to drop the seeds can be made with a lead pencil. The children will enjoy watering them, under direction (not too wet, remember). The resulting sense of ownership will add much to their interest.

Plant plenty of seeds. Many will decay.

Encourage the pupils to plant and watch the seeds at home and to report results at school. Thus home and school are connected. School becomes home and home becomes school.



Plant some seeds (peas thrive best; beans are apt to decay) on damp — not wet — paper, in a covered jelly tumbler or fruit can, or on a sponge in an open tumbler, the lower part of the sponge touching — not immersed in — water in the bottom of the glass. These will show the children how the roots are formed, how they branch and produce root-hairs, how they grow and get nourishment. These points cannot be studied on plants in the ground. With the little children it is not wise to pull up the plants. They should learn, first of all, to love and cherish and care for them.

Introductory Work.

Now comes the time of waiting and watching. Continue the bud study. Review or talk with (not merely to) the children about the ways in which the seeds were scattered last fall. How were they protected during the winter? Show the children the pea or bean pods or pictures of them. Tell them about the home of the seed, its attachment to the plant, its shape and color, walls and rooms, the way in which each little pea or bean was fastened and kept in place by its stem. Do *not* tell them about the formation of the pod from the flower, or about any other "secret" which they can and should discover for themselves by watching the growth of the plant.

Read to them about the peas or beans. Do *not* read about what they can and should discover with their own eyes. "That's telling," and will spoil it all.

Something like "The Seed," from Miss Arnold's "Waymarks for Teachers," will put the children in the right spirit and make them more interested and expectant.

A little later read to them "The Little Brown Seed in the Furrow" ("Little Flower Folks," Vol. I., page 50.) Lucy

An Easter Motto.

Larcom's "The Mystery of the Seed," is appreciated by older pupils.

Study of Germination of Bean.

Have children examine each day the seeds in the tumblers. Notice swelling of seeds (Why?) and how the skin wrinkles (Why?)

At what point does growth begin? What comes out? How get out? Where? Can this little stem be seen under the coat before the seed "sprouts"? How much does the little seed grow each day? In what direction? What form on it? (Roots and root-hairs to aid it in absorbing nourishment from the soil.) What does the root do for the plant? Why grow first? It is going down to find food for baby plant.

What else comes from seed? How many baby leaves? How folded? Why? They are so weak. What holds them up? Compare the veins with the fingers in the hand. How do they spread out? In what direction grow? Color at first and later?

How do leaves and stem get out from coat? What is use of coat to the seed? Is it of any use after root and leaves grow? What becomes of it?

What other parts to seed beside stem or root, leaves and coat? How many? Shape, color, and size? What do they do? What keeps baby leaves warm in the seed? (Let children work out or try to discover for themselves the use of the thick halves, or cotyledons, as storehouses of food. Do not tell them.)

Now (not until after study of growth, when children will understand them,) have pupils study Lima beans, or other large beans, soaked over night in water.

Notice size, shape, color, markings. Draw or mould in clay, or sew, or outline with sticks.

Remove skin. Notice pocket in inner surface of skin, in which the end of the little stem fits. Study stem, leaves and two halves. Compare with young plant.

Continue the study of the plants in the glasses, bringing out idea that roots get no food. Where does the food for growth come from? Let the children find out.

Observe development of seeds planted in earth. How does the little seed come out of ground? Why arched? Why "back out?" Watch appearance and development of leaves and stem. When does the stem straighten? Why? Study changes in halves, or cotyledons, in color, size, and firmness. Why do they shrivel? What becomes of them? When fall off? Why?

Continue study of growth, of formation of branches, buds, and new leaves. Are the later leaves like those first formed? How different? Watch the plants until flowers, pods and seeds form in June, and the cycle is completed.

Bring out relation of little plant to its environment; the necessity and use of water, air and sunlight.

Do not forget its beauty; nor its work and the work of each part (how necessary for each to work well); nor the poems and other levers to aid in uplifting.

Let children personify the baby seed and tell its story.

Make the bean and its growth a basis for comparison: in the first grade, with other kinds of beans; in the second grade, with peas; in higher grades, with other seeds and plants.

Be sure to study the seed with your children, and study your children through the seed study.

Books.

First and best.—The Book of Nature. The seeds themselves.
Second.—Any botany, for general reference.
Third.—Newell's "Outlines of Lessons in Botany," Part I. (Ginn & Co., Boston; price, 55 cents.) Very helpful in just this kind line of work and in all spring work.
Fourth.—"Little Flower Folks," Vols. I. and II. (Educational Publishing Company, Boston; each, 30 cents.) For supplementary reading.
Fifth.—"Little Flower People." (D. C. Heath & Co.; 45 cents.) The life of the plant.

Bird Study in School. II.

By Georgia A. Hodskins, Springfield, Mass.

April Comers.

MARCH was nearly gone, when, one Friday afternoon, the teachers again met to talk over their month's work in the bird line and to plan for April's work.

The work was generally voted successful, though one or two told of strange birds described by eager pupils and not named by any bird-book in the land; but after one of the teachers had given a strictly truthful description (save omissions) of a very common bird and no one of the number could name it till she described its "song" as "quack, quack," they decided that it might have been the descriptions and not the bird-books that were at fault.

This list was selected for April, Cowbird, (or Cow Black-Bird,) Kingfisher, Blue Jay, Chimney Swift,* American Goldfinch, (Thistle Bird, or Yellow Bird,) Towhee, Brown Thrasher, Chipping Sparrow, (Hair Bird,) and Barn Swallow.

* Omitted for want of space, will appear next month.—Ed.

It was again decided to take the work up differently in the different grades, the lower rooms as before, spending all their time on a few birds while the older pupils covered the entire list.

Barn Swallow.

One of the last arrivals of the month is the barn swallow. His flight, his note, his shape and his habit of eating and singing on the wing at once proclaim his family. Notice the difference between his flight and that of the chimney swift. One darts zigzag through the air, the other flies in curves. He gains his name of barn swallow from his fondness for building his nest on the rafters of old fashioned barns; but he has no fondness for new ones, they are too close for him. He is one of the handsomest of the swallow family, his bluish-black contrasting with his deep chestnut throat and the lighter chestnut of his belly. His wings and tail are black, the latter being very deeply forked and somewhat spotted with white.

Barn Swallow

The Chipping Sparrow.

By the roadside, in the orchard, in the barnyard hunting for horse-hair, in the dooryard looking for crumbs, in the bushes singing his rather monotonous song, everywhere you may meet our little friend the chipping sparrow, for he is almost as fond of the society of men as his cousin, the English sparrow.

Chipping Sparrow

He is a little smaller than the song sparrow whose acquaintance we made last month and our easiest way of identifying him will be to note the principal differences between the two.

The chippy, though as great a lover of music, is not as gifted a singer as the song sparrow. He does his little best and his locust-like trill is the first song in the morning chorus and the last note to die away.

The song sparrow, you remember, was white underneath with streaks of black and brown; but the under parts of the chippy are ashy gray. The top (crown) of the chippy's head is chestnut, while our first acquaintance wore a chestnut crown, streaked finely with black. The chippy, too, is a little smaller and much less shy than the singer.

His other name is "hair bird," and you would not wonder if you had seen its nest, for it is made largely of horse hair. He builds in low trees or bushes.

Cowbirds.

One family of birds is so well-known by the company they keep that they have been renamed Cowbirds or sometimes Cow Blackbirds.

Cow Bird

You will find them in pastures *walking* sedately about after the grazing cattle, feeding on the insects that have been disturbed by their tread. A first thought will be "a flock of purple grackles;" but as with the sparrows we shall soon see the differences.

They are much smaller than the grackles, less noisy, the head and neck of the male is dark brown, while the rest of the body is an iridescent black.

These birds are always found in flocks and do not pair. The female builds no nest; but lays her eggs in the nest of some other bird, usually choosing the nest of a bird much smaller than herself, such as the thistle bird or the vireo. These little birds sometimes leave their nests when they find the strange egg, which the cowbird has left there, and sometimes build a new nest on top of the old one, making two stories and, so, covering up the new egg; but sometimes they do not seem to notice the difference. The egg of the cowbird hatches sooner than the eggs of these other birds and so the young cowbird gets the larger share of the attention of his adopted parents.

Brown Thrasher.

There he sits, swaying back and forth on the topmost twig of yonder slender birch tree. He is a large bird, larger than the robin, the breast is white, much spotted with brown, while the head, back, wings and tail are a cinnamon-brown color. The wings have two white bands on them. As he flies, you notice his large rounded tail which he spreads out like a fan. He flies low and a month from now, you will listen vainly for his song and search in vain among the tree-tops for the Brown Thrasher, alias Brown Mocker, alias Brown Thrush.

Brown Thrasher

While engaged in this search you may see among the alder bushes, a pair of large reddish brown birds with spotted breasts, who eye you suspiciously and cluck at your approach like a young red squirrel. Here is the object of your search.

Let me tell you one more thing about him. No one of our native birds, unless the robin, destroys so many harmful insects and grubs as he.

The Kingfisher and Blue Jay.

Two birds that we shall find this month, we might have seen through the winter, had we braved the cold and searched for them in their winter haunts. Both are very large, both are mainly blue and white in color and both have splendid crested topknots and yet they neither look nor act alike.

Kingfisher

The kingfisher you will find sitting on a dead stump near the water's edge. What a strange shaped bird he is! So long a bill, so large a head, so short a body! See him now as he darts through the air and dives into the water, returning to his stump with a fish in that great bill.

General color, grayish blue, underneath white, except a blue band across his breast, the tail is square and somewhat spotted with white. Bill very long and dark.

The blue jay haunts the edges of woods. Many a young oak grove has sprung up through his aid, for he is much given to hiding his spoils and often buries so many acorns in so many different spots that he forgets where he has placed them.

Above blue, underneath bluish white, wings and tail darker than the back, with black bars on them. Many of the feathers are tipped with white. Tail rounded. A band of black under his throat together with his splendid crest, gives him somewhat the appearance of a drum major.

Blue Jay

American Goldfinches.

Flitting through the orchards, darting here and there in the pastures, swinging on the mullein stalks, talking, chattering,

trilling like a little flock of wild canaries, you will be sure to see the American goldfinches. Next winter, when Mr. Goldfinch has left off his gay coat and donned a sober suit of brown, "Yellowbird" as he is sometimes called will not describe him well. When the thistles go to seed, you will find out why he is called Thistle bird.

Goldfinch

The American goldfinch is a small bird. His bill shows that seeds are his principal food. He looks very much like a canary, the body being yellow, growing lighter towards the tail, the wings are black and so is the crown of the head.

Chewinks (Towhee Buntings.)

If in your walks through the pastures and along by-paths edged with scrub oaks and other low bushes, you see stealing along just in front of you a pair of birds, one plainly dressed in brown the other looking much like a small robin, save that his neck as well as his head is black, that there are white bands on the wings and that only the sides of the belly are chestnut, the middle part being white, you may rest assured that you have met the towhee buntings, sometimes called ground robins or chewinks. These are handsome birds, but owing partly to their shyness and partly to their habit of stealing about among the bushes near the ground we seldom get a good look at them.

Chewink

Books for Reference.

"Our Northern and Eastern Birds," by Samuels, (R. Worthington, N. Y., Pub.) Dr. Coues' "A Key to the Birds of North America," Baird, Brewer and Ridgway, (Little Brown & Co., Pub.) Two smaller reference books, which though far from complete are especially helpful to beginners, as they do not use so many scientific terms, are Grant's "Our Common Birds and How to Know Them," (Charles Scribner's Sons, Pub.) and "Birds Through an Opera Glass" by Florence Merriam, (Houghton, Mifflin & Co.)

For literature, both for teacher and for classes, nothing could be found that would be more likely to stimulate interest than the writings of John Burroughs. (Houghton, Mifflin & Co.) He himself says of his "Wake Robin" that it is "mainly a book about birds or more properly an invitation to the study of Ornithology" and surely after reading it one can not but believe that no one else could have made the invitation so attractive. If one has not time for all of them now, the essays, Tragedies of the Nests, Bird Enemies and Winter Neighbors in Signs and Seasons; those called A Bird Medley and April in the volume, Birds and Poets; Birds and Birds in, Locusts and Wild Honey; and Notes by the Way, in, Pepacton will be found to bear most closely on our work.

Thoreau's "Early Spring in Mass." takes you into the woods themselves and lets you see the natives in their every day manners.

Olive Thorne Miller's books and Bradford Torrey's Essays are also charming reading. (Houghton, Mifflin & Co.)

Hamilton Gibson's work is doubly attractive from the fact that he is equally fine as an artist or a naturalist and so we see through his pictures as well as through his words. "Sharp Eyes" is especially full of suggestions for out of door seeing. (Harper's.)

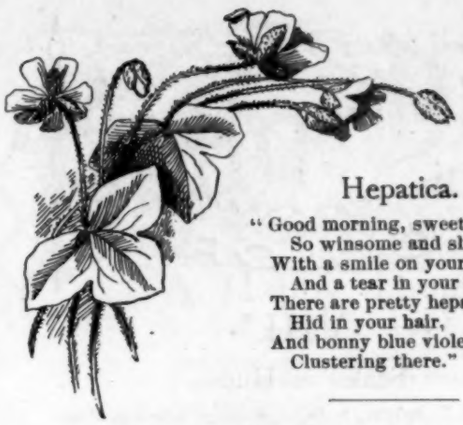
J. G. Woods' "Homes Without Hands" contains much interesting information as to nest and habits. (Longmans & Co.)

Of poetry there is an abundance. Perhaps of all the poets Emerson and Lowell are most true to life. Emerson's "May Day" is full of quotable bits and there has probably nothing more true of a New England spring ever been written than Lowell's "Sunthin' in the Pastoral Line."

"Why, I'd give more for one live bobolink,
Than a square mile of larks in printer's ink."

One Language.

One language the birds have, *one*.
They use it by day, they use it by night,
They use it in shadow and sun.
'Tis the language of love, the same, the same.
Wherever its harmony grows. — *Sel.*



Hepatica.

"Good morning, sweet April,
So winsome and shy,
With a smile on your lip
And a tear in your eye.
There are pretty hepaticas
Hid in your hair,
And bonny blue violets
Clustering there."

The Artist Spirit.

By Fanny A. Comstock.

ONE of the most familiar and one of the most helpful sayings of the hour is, that in our profession, pre-eminently, the artist spirit should prevail, rather than the artisan. May I tell you of a beautiful artist touch that came to my knowledge lately?

It was one of the worst snow-storms of the season, and there was grave doubt whether my friend who reigns in the first grade would have a single child present. Yes, at last a solitary pupil appeared, little Susanna; who from her home on the hill had much farther to go than most of the stay-at-homes. The fact that Susanna's home was what it was, no doubt had much to do with her wishing to come, and being allowed to come on such a day. It certainly gave a deep and unutterable significance to what happened to her at school that day.

All the first-grade teachers who are reading this must know that my friend found it impossible to disappoint brave Susanna, by sending her home without the school for which she came. So after the exhausted child had recoverd her breath, school began. It accords with the rest of it, that Susanna's powers had not kept her in the front ranks of attainment, so some extra effort in regular lines came in very well for a part of the morning. Then came the climax which I like to think of as something Susanna will remember with loving delight, as long as she remembers anything.

Picture to yourself then, the teacher reading "Snow Bound" to seven-year-old Susanna, slowly, feeling her way with many a question, many a golden pause while Susanna thought, pictured, felt the beauty and the wonder.

I would dwell on the picture, for it holds the heart of what I am trying to say or suggest. Fill out for yourselves the sad details of poverty, ignorance, and vice which singly or combined might have stood in Susanna's daily thought for the sacred word, home. And think whether this hour was not a glimpse of heaven for her.

We can tell very decisively what she thought of it, for this is what happened at noon.

"I don't believe anyone else will come this afternoon, Susanna," said Miss T.

"But I can come if I want to, can't I?"

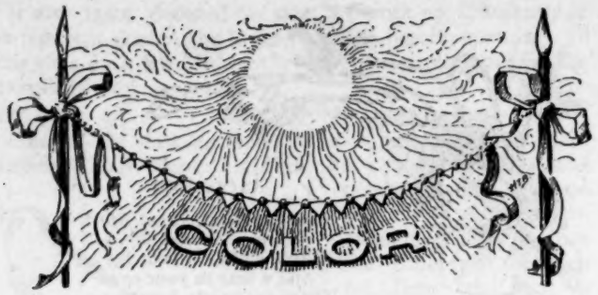
"No, I wouldn't come, the storm is too bad; better wait till the others come."

"Can't I come if I want to?" Susanna repeated, and would take nothing short of absolute denial for her answer.

Before many days the elements had another fit of anger, but Susanna appeared, nothing daunted, and remarked triumphantly, "*I've brought my dinner!*"

My thought ends as it began with the teacher; for there was another poem side by side with "Snow Bound," that stormy morning.

"Better to have the poet's heart than brain
To feel than write: but better far than both,
To be on earth a poem of God's making."



VIII.*

Scales of Hues.

By HENRY T. BAILEY, State Supervisor of Drawing, Mass.

BUT if we could have gone through Mrs. Browning's chamber with Mr. Bradley's sample book in hand, no doubt we should have found " . . green, . . . pure green, . . greenly, . . . green, ... greenery," to be not tones from one green scale, but tones from several scales in the green group,— not a pure dominant harmony after all, but something richer.

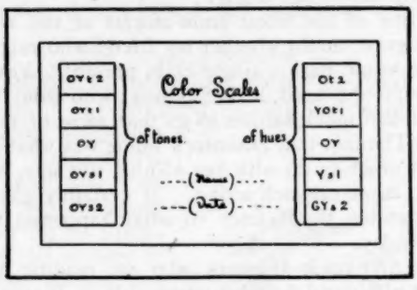


Fig. 35

When we were studying dominant harmony we found very few examples in nature or in historic art, (some say there are none whatever!) yet we retained scales of tones in our course for the sake of the children, as a sort of hone for bringing their color sense to a keen edge. It is time for us to test the blade.

Upon a 6"×9" manilla sheet draw margin lines ¾" from the edges. Cut from your sample papers, a ⅝" × 1¼" oblong from each sheet in the orange-yellow scale, and glue the scale upon the sheet as indicated in Fig. 35. Cut similar oblongs from Ot 2, YOt 1, OY, Ys 1, GYs 2, and glue that scale upon the right side of the sheet as indicated in the figure. Do *not* add color-names, or their symbols. Finish the sheet as indicated.

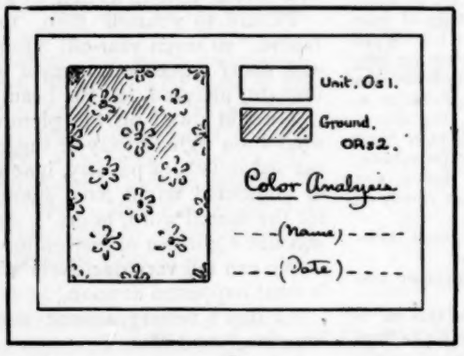


Fig. 37

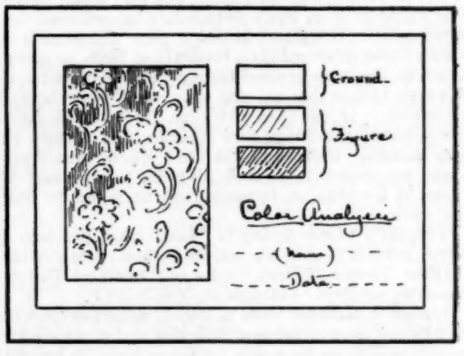


Fig. 38

Show this, when completed, and ask the children to name the central color in each scale: to name the other colors in the first scale: to name the other colors in the second scale. Can they do it? How happy you should be if they can! Ask them to find the colors of the first scale upon the chart of spectrum scales: to find the colors of the second scale on the chart. A horizontal line A B, Fig. 36, may indicate the position of this first scale on the chart. What sort of line would you draw to indicate the position of the second scale? How does the lightest color in the second scale differ from the lightest in the first; both are second tints? What is the difference between the two second shades? Which is the more beautiful scale? Why?

Whatever you think of this second scale, Nature is very fond of it. She uses scales of this kind in more than half her designs.

I suppose you will be reading this some warm day in April: I am writing it in February,— the twenty-third, a Saturday morning,— in my study with a cheerful open fire for company. It is whispering and singing softly to itself the secrets and the songs it learned long ago in the Mannlot woods. The body of that oak backlog is warmed through at last, and is blood red. Some live coals have fallen from it: they are orange-red. The inner edge of the forestick is red-orange. The tongues of flame are orange below and yellow-orange above. Here is a scale of hues with red-orange central.

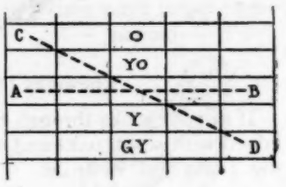


Fig. 36

Through my north window I see the restless water of the bay reflecting and re-reflecting the cloudless deep of the upper sky: the ocean is as blue as the spectrum standard this crisp morning. The sky near the horizon is a green-blue tint. The long, low line of the north shore, Cape Ann, twenty miles away, is a violet-blue tint. Here is another scale of hues. This time blue is central.

Through the south window I see the brown lawn stretching away to the woods. Here is a great boulder which the glacier kindly brought me from New Hampshire, several millenniums ago. It has a lovely coat of lichens now, and is protected by a pair of venerable moss-grown wild cherry trees, and a clump of viburnum bushes. Just beyond is my *chevaux-de-frise* of wild rose-bushes, and my sentinel cedars, clad in their winter robes of fur. " It must be beautiful in summer, when the grass is green and the roses are in bloom!" Yes, but is it not as beautiful now? Is there no color now?

" Alas, thine is the bankruptcy
Blessed nature so to see!"

The effect is gray, to be sure; but a gray through which glows the red of the rose bush stems, the red-orange of the viburnum shoots, and the yellow-orange of the grasses and sedges just escaped from under the snow. The royal robes of the cedars have rich shades of orange-yellow, yellow, green-yellow and yellow-green: the lichens on the cherry trunks and the old boulder carry on the scales into tints, beginning with yellow-green, that you may not miss the connection, and running through green, blue-green and green-blue. Here is an unusually long and subtile series of hues with orange-yellow as the central or key tone.

Wherever you turn in nature these scales of hues appear: sometimes of only two hues, as in some pebbles, more frequently of three as in some leaves, but generally of many hues, one color, being central and the others showing traces of the standard next above on one side, and of the standard next below upon the other.

The best work for the children will be the analysis of objects for their colors. Their eyes must be trained to detect the difference between a pure tint and a tint produced

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by *colored* light; between a pure shade and a shade produced by the complement of that colored light.

For the first lessons dress-goods, wall papers and simple objects like feathers and leaves are sufficiently difficult.

Fig. 37, shows the arrangement of a sheet containing the color analysis of a piece of calico. The piece of cloth is fastened upon the sheet at the left, and samples of paper, of the right color are added, together with the color names, pupil's name, etc. Fig. 38, shows a similar arrangement with a wall paper sample.

If more complicated color schemes are attempted, for example, like that of a Baldwin apple, such an arrangement as that shown in Fig. 39, may be made by the pupil. In such cases all the hues cannot be matched and represented, only those prevailing hues, which give the general effect.

Let the older and more skilful pupils try minerals and shells and insects. Some of these are very beautiful. The *grapta comma* for example, has upon the upper side of its wings OYt 2, YOs 2, OS 1, ROs 2, cool gray No. 2, and black.

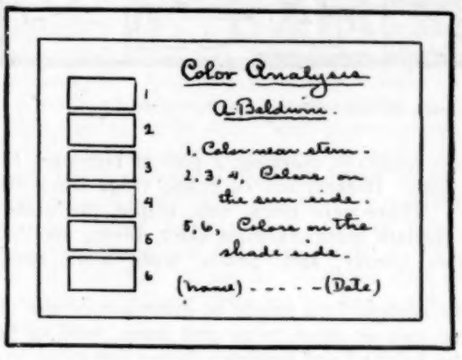


Fig. 39

What is the central or key tone in the coloring of a canary? of an oriole? of a parrot? of a peacock's plume?

Every natural object has a beauty of its own. It must have; God made it. It reveals Him according to its place and power. He is not Truth only, nor Goodness only; He is also Beauty. That Beauty appears in his handiwork either revealed through *law* — a beauty of arrangement, or revealed through *life* — a beauty of form, or revealed through *love* — a beauty of color: for the color of the natural world is the crowning gift of Infinite Love.

April.

The year's at the spring,
The day's at the morn;
Morning's at seven;
The hill-side's dew-pearled;
The lark's on the wing;
The snail's on the thorn;
God's in His heaven —
All's right with the world!

Browning.

See yonder leafless trees against the sky,
How they diffuse themselves into the air,
And, ever subdividing, separate
Limbs into branches, branches into twigs,
As if they loved the element, and hasted
To dissipate their being into it.

Emerson.

There is something nobly simple and pure in a taste for the cultivation of forest trees. It argues, I think, a sweet and generous nature to have this strong relish for the beauties of vegetation and this friendship for the hardy and glorious sons of the forest. He who plants a tree looks forward to future ages, and plants for posterity. Nothing could be less selfish than this. *Irving.*

A Happy Thought.

By Lillian M. Cherry.

Then all around me as I went,
Their loving arms they lightly bent,
And all around leaf voices low
Were calling, calling soft and slow."
— *From "The Trees."*

Chapter I.

Alice Loring stood looking wearily down from her rain-splashed window at the muddy city streets. She was a teacher, living in the fourth story of a boarding house. Her early home had been spent in the country, with trees everywhere, and each separate tree had been her own special friend. Many a time had she thrown her arms around their strong trunks and told her childish griefs and joys. Many a tree could tell of the gay little girl who swung in its branches, as she watched the treasures of bird and insect life. Did the old trees miss her as she missed them? She could almost throw herself, as a child again, at their feet to-night and sob out her homesickness for the old days and the dear old country life again.

But Alice Loring was not given to dreaming. Out of this longing for the old home and the pine woods grew a precious Arbor day to many little souls under her care, who had never known anything but brick walls, narrow dark homes, and to whom blue skies and beautiful trees were almost like myths. Their sole idea of nature had been gained mostly from summer outings given by the Fresh Air Fund,— all too brief, alas, for their eager souls and cramped lives.

"Looking wearily down from her rain-splashed window"

A day was coming, still some weeks off, which yearly brought a shiver to her heart, as she thought of what trees meant to her — of all they did *not* mean to these city children.

"Plant trees, plant trees on Arbor day," Mockery again! No room for trees about their homes! And at school only a wretched little space of a yard furnished by a *rich* city, with so little sunlight that the trees usually died a natural death before the next Arbor day; a cold wind so that the children were usually obliged to content themselves with the statement, "The tree is planted," instead of being eye witnesses of it; a vague idea of trees hastily "poured" into the children the week or day preceding Arbor day — these were some of the conditions of past Arbor days.

Should they be only these the present year? No, not the ones that she could change. Thank God, life is not made up of the "past" — but it is "present," "future." These were hers.

Why was all her beautiful past life given her, if not to be lived again in the hearts of these needy children? Why were trees real to her, if not to give of her abundance, to

these "little ones." Truly Alice Loring found "tongues in trees," to-night. A resolution was formed on the spot.

Down went Miss Loring's book. She turned eagerly to her desk, wrote, sealed, addressed a letter, and hurried, even through the sleet, to the corner mail-box. The Arbor day fate of one primary school-room was settled that night.

Chapter II.

Don was the orphan cousin of Alice Loring, who lived at the old homestead with Mrs. Loring. He had just returned from the post office reading a very interesting letter from cousin Alice.

"Hurrah for cousin Alice!" shouted Don, as he finished and rushed indoors to find Mrs. Loring. "Auntie, here's what Alice wants, and I'd tramp the earth for her and you,—don't care how many we pull up or pick, do you, Auntie?"

"What is it, Don? Does Alice want us to pull up the earth?" said Mrs. Loring, with a laugh.

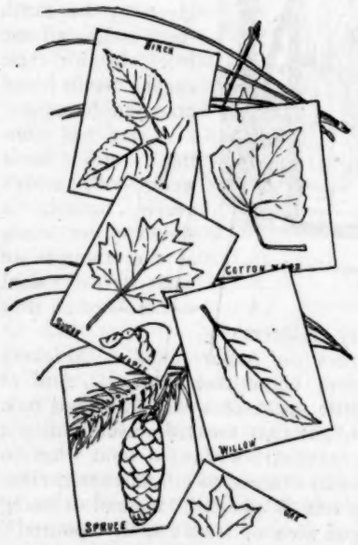
"Well, no, not exactly," said Don, laughing, too, "but she wants to have an Arbor day for those little ragged children of hers, and she wants me to get her a big box full of all kinds of trees."

"*Trees!* O, Don," exclaimed Auntie.

"Well, I mean twigs and branches and sprouts and cones and all the evergreen I can pack in," was the excited answer. It is needless to say Mrs. Loring was ready to help with wise assistance and direction. The joy she took in selecting and planning the contents of that box was almost more than was Alice's when she knelt by its side, drinking in the freshness of the woodland treasures sent her. Every tree and shrub she knew so well were robbed of branches for the wonderful box that went from Oakland to the city.

Chapter III.

In the basement of a city school, a box was secretly unpacked one night and a portion of its contents carried into the room adjoining the primary room. Before school closed that day, a story had been told to eager listeners. It was a "really true story" from the teacher's own heart memories of trees, and all they had meant to a certain little child, many years ago.



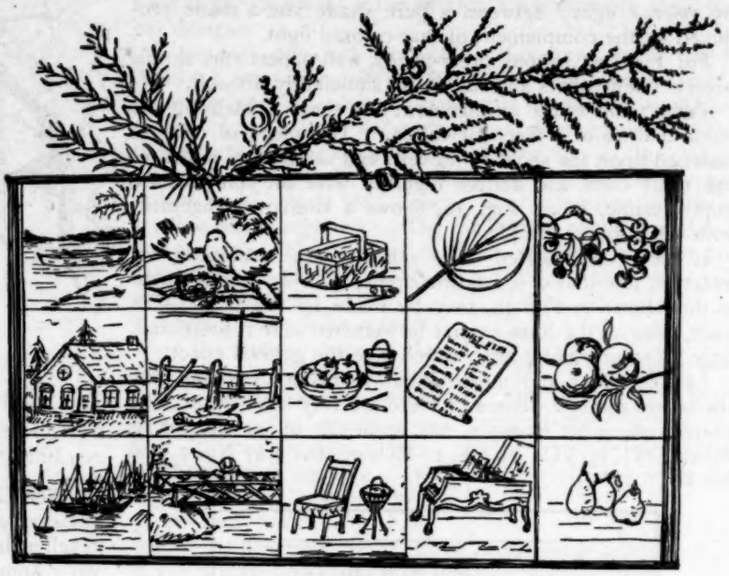
"They all sewed a pretty tree or leaf-card"

As an early step towards Arbor day preparations Miss Loring had her "helpers" clear off the large blackboard space on each side of the room. It was very mysterious. She had not told them why, only this,—that one board was to be their very own and one hers — to get ready for Arbor day.

A dainty border of Pussy-willows, headed the children's board, and branches of cedar were placed above her own.

When Miss Loring told them of the dear little soft willow buds, now coming in the woods, they were so glad their pussies came on their board first. When she told them of the red cedar and how so many lead pencils were made from its wood, they looked with double pleasure at the pencils on their desks.

At last there came from a corner cupboard — on that


"On the boards the little hands made glad work in sketching"

never-to-be-forgotten morning, a part of fairyland, the children thought. Baskets full of twigs, twigs from the Oakland box. There were lilacs, oak, maple, the horse-chestnut with its dark branches, even alder, birch, and branches from apple, cherry, and peach trees were among the number.

Into the anxious little hands of everyone of the children was placed two or three twigs and these were to be their own, to be watched and tended. Not a few steps had been required to collect all the jars and bottles now forthcoming, for few of the children could furnish any. A pail of water

came next and some careful little folks were set to filling the jars and bottles set upon the floor or desks for the present.

How softly the little ones stepped — not to overturn these treasures? A pasting lesson came next, in which each child was allowed to paste a slip of paper containing his name upon his own bottle.

At noon each child carried home one twig, to be watched and cared for, there. Remember, these children saw few trees — except in the park and that only rarely, and those were never to be touched. No wonder Alice Loring's heart went out to these children.

Was ever the development and growth of bud and branch watched as these Oakland buds were watched in these humble homes! What new revelations each day. What glorious "morning talks" in the school-room. What precious things trees came to be to the children in those days. Even the Dryads, so real to the little Greek children so long ago, came to live again in the hearts of these nineteenth century children. The few trees they could examine they treated very tenderly, half expecting to see a tiny

Dryad peep from the branches. But Miss Loring said they could all be Dryads to help care for every tree they should have near.

"Give me of your bark, oh, birch tree,"

thrilled their little hearts and stayed on their minds. One night Miss Loring told them of some strange beautiful palm trees, in far away lands, so different from our own trees. The palm leaf fan she showed them was a leaf from the tree. For the good-night verse they said these favorite lines of Miss Loring's:

"I know not where his islands lift,
Their fronded palms in air,
I only know I cannot drift
Beyond his love and care."

The thought from this — as she explained to them of God's caring always for their life, seemed to give peace and joy to these tiny hearts. "Will there be palms in heaven, Miss Loring — lovely ones, like you draw?" asked little Hilda. Dear little Hilda, whose home was so poor and so wretched and whose soul was so large and pure, in the midst of all.

These children had to learn what trees meant, all in all. Then, by gradual steps they were led to observe and tell their various uses. Each day some new thought as to what could be made of the wood of trees or the uses of their roots, bark, leaves, fruit, etc., was given in the general lesson. The children had become awakened a little. On the board the little hands made glad and queer work of sketching something they had observed in connection with this thought. They were allowed also to chronicle the growth of their twigs on the side panels. Life grew too short for all they had to put into it these days when they fairly lived-in the "forest primeval." And when all around leaf voices low,

"Were calling, calling soft and low."

Chapter IV.

Arbor day at last! It only needed a few days of extra preparation in the way of songs and decoratlons and the children were ready.

"Wake little birds, and see how sweet the April breezes blow,"

meant something now. One more great surprise awaited them. With the help of the "up-stairs" children, Miss Loring turned her room into a bower of beauty with the evergreen decorations saved from the home box. How the children looked when they entered the room on Arbor day morning! It was a fairyland. What a pretty border the brown cones made strung along the gray walls! How the pine needles shone, how dainty the cedar looked upon the walls!

Next came the morning's private ceremony of "tree-planting" in the school-room. "Trees planted — in *school?*" Yes. The children "planted" upon the blackboard, the tree they would like to plant, out of doors, had they the opportunity. How the front blackboard grew into a garden, fair to behold!

In the afternoon came the parents from their lowly homes. They came timidly but eagerly, for had not the children talked of "Miss Loring," for hours at a time, and had not her gentle hand soothed many of their sorrows as she went among their homes at odd hours. All the children's parents had been invited. All who could, came, admired, and remembered the day's treat.

In one corner of the room stood a glorious palm, growing — one of the handsomest from the city florist's. A birthday gift from home! And it was to "stay at school!"

The children lived in a dream of bliss these days. Under the palm some very pretty exercises were given, and under all the green trimmings some sweet songs sung.

What mattered it, that day, that the chill wind allowed of only a brief song at the "tree-planting." Had they not all sewed a pretty tree or leaf-card to carry home, to hang on the walls?

They had learned too, how to take care of real trees. The boys meant to be very careful after this, how they treated the baby trees in the school yard. What if a bird should come some day and find its home on the "school tree!"

And Alice Loring — was she weary this night, as on the night our story opened? Yes; aching in every limb, but it was *not* heart weariness. In her heart was a song, echoed from the hearts of her happy children. The "inasmuch" was already bringing its reward.

And she slept that night and dreamed of home, and that the trees gave her new welcome in vacation time.

"And when I came among the trees of God
With all their million voices sweet and blest,
They gave me welcome.
So I slowly trod their arched and lofty aisles with heart at rest."

Dr. Holmes' First Poem.

Of his first poem, Dr Holmes has himself said, "The first article of mine that ever saw the light was a little poem of four stanzas, entitled 'James's Tree.' A little lad, son of Judge Dewey of Massachusetts, stuck a willow twig into the ground of his father's garden, which took root after the manner of such twigs, and grew into a tree. The boy lived long enough to call this tree his own, and to secure its protection and then he died. After his death I wrote the poem, and it was published in the *Youth's Companion*. I was then seventeen years old. I took the printed copy containing it from the post office, peeped within, and then walked home on air. I shall probably never be so absorbingly happy as I was then. Earth has nothing like it — earth never had anything like it — for me. I have seen my work in type since then until I have been tired of the sight of it, but I can never forget the great joy of that occasion."

"The birches, fair and slender,
Fair white ladies gay and tender,
Sweet white ladies of the wood."

State Supt. Shaeffer (Pa.) says that a large glass fruit jar, containing printed matter, manuscripts, and essays upon the leading events of the year, may be buried several feet from the trunk of the tree, so as not to interfere with its subsequent growth. A prophecy upon the future of our country, an oration upon the educational and other duties of a true patriot, and a statement giving the date and organization of the school, signed by the pupils in the order of their classes, may be read or spoken, and then placed in the jar.

Swinging on the Birches.

In the days of long ago,
Days of high-pewed churches,
We had just the jolliest times,
Swinging on the birches!

In these scientific days,
Youngsters make researches;
They don't know what real fun is,
Swinging on the birches.— *Sel.*

Minneapolis Primary Schools.

Second and Third Grades.

SARAH L. ARNOLD, Supervisor.

Language.

(Dictated.)

Miss Waterdrop said, "I am going on a journey."

When she was up in the sky her name was Miss Water-dust.

Miss Water-dust said, "I am geting cold."

She said, "I do not like the North wind he makes me so cold."

Then Miss Water-dust said, "I am turning into a rain drop and I am afarid I'll fall."

CORA POWELL.

Bremer School. 2nd Grade

The Apple.

(A connected lesson from *Peabody* school, 2d grade, including the work of four pupils.—ED.)

The apple is a fruit that grows on trees.

It ripens in the fall.

It is shaped like a sphere and is the size of a ball.

It may be red, yellow, green or brown.

The parts of the apple are the skin, pulp, core and seeds.

The skin covers the apple and keeps it from spoiled.

The skin may be either red, yellow, green or brown, and is thin, smooth and glossy.

The pulp is the part we like to eat best.

The pulp is yellowish-white, hard or mellow and is next to the skin.

In the center of the apple we find the core.

It is star shaped.

It has just as many cells as the flower had petals before it died.

In each cell of the core we find two seeds.

They point to the stem and are brown.

We dont eat the seeds, but we can plant them again for more apple trees.

In the stores we buy vinegar and cider made of apples.

ANNIE P.

The Bad Apples.

Once there was a boy playing with some bad boys and his father didn't like it.

So he went to the orchard and brought back six good apples and one bad apple.

And he told his son to put them in the pantry and in eight days he should take them.

On the eighth day he took them and he said they were all rotton.

Then his father said if you play with bad boy you will be bad, too.

The bad apples make the good apples bad.

This story teaches all of us a good lesson not to play with bad boys or girls.

HARRY HANSEN.

Little Miss Apple.

I am little Miss Apple
My home's in a tree,
Far up in the branches
Where no one can see.

I list to the birdies,
I swing in the breeze,
I laugh in the sunshine,
I hide in the leaves.

LILLIE HANSON.

Spelling.

The core is in the center of the apple and holds the seeds.
The skin covers the fruit and keeps it from spoiling.
Apples are either red, yellow, green, or brown.

core	seeds	either
center	skin	yellow
apple	covers	brown
holds	spoiling	from

(Phonetic markings of these words not given here on account of type.— ED.)

MARTIN JOHNSON.

Peabody School. 2nd Grade.

Oak Trees.

These are oak leaves. One is a black oak leaf and the other is a white oak leaf.

The black oak leaf has pointed lobes. It has a long stem and has as traight base. The white oak leaf has round lobes. It is pointed at the base and has a long stem.

ALICE SWANSON.

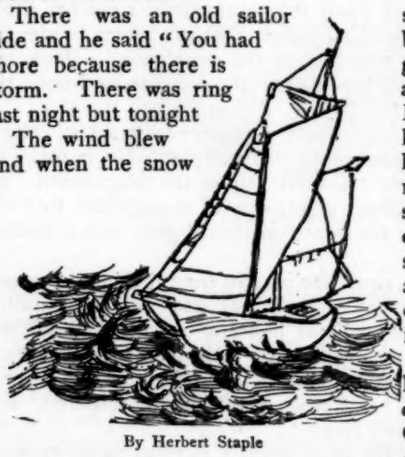
Franklin School. 2nd Grade.

The Schooner Hesperus.

One cold winter a long while ago there was a schooner named the Hesperus, and the skipper had taken his little girl with him so that he would not be lonesome.

And I am going to write you about the skipper's little girl. Her eyes were blue like flax flowers and her hair was golden, Her skin as white as the snow.

The skipper was standing by the helm with his pipe in his hand watching the smoke how it went first to the West then to the South.



By Herbert Staple

There was an old sailor standing by his side and he said "You had better go into the shore because there is going to a hard storm. There was ring around the moon last night but tonight I see no moon."

The wind blew hard and a sharp, and when the snow hit the salt water it made a hissing sound. Soon down came the storm and struck the vessel and made it shudder. Then it jumped its cable's length.

"Come here my little daughter" called the skipper, Come here and don't tremble so for I can battle the hardest storm that ever wind did blow. He wrapped her up in his large overcoat and tied her to the mast. "Father what are those church bells ringing for?" Some fog bells on the rocky shore, and he turned his boat toward the open sea. "Father what are those guns I hear?" Some ship that cannot live. Father what is that bright light I see? He did not answer because he was dead with his face to the skies. The father's eyes were glassy.

His little girl prayed that she might be saved, and she thought how Christ made the water still on the lake of Galilee.

Through the midnight dark and drear the vessel swept towards Norman's Woe.

A fisherman came out at daybreak to see what the storm had done, and he was frightened to see the form of a maiden tied to a piece of broken mast.

"And ever the fitful gusts between
A sound came from the land;
It was the sound of the trampling surf,
On the rocks and hard sea-sand."

LILLIAN MCMILLAN.
Marcy School. 3rd Grade.

The Maple Trees.

Maple trees grow in the woods, lawns, fields and many other places. I know two different kinds of maple trees. One is the hard maple and the other is the soft maple. The soft maple has deeper lobs than the hard maple.

(Drawn from nature)

One day this summer I was out riding and there was a maple tree and the roots spread out from under the ground and reached across the road. I saw that the roots were large and very long. The roots branch out like the branches of a tree. The trunk is not as large as the trunk of an oak. The bark peels off the maple very easily and the color is a bluish gray, and after the bark is peeled off it is very dark. The branches spread out nearly straight and are not as near to the grownd as the oak. The leaves are hand shaped and have deeper lobes than the oak.

The blossoms of the maple tree come in the sping and in the fall they turn two seeds and they have little winglet, so they can fly away to another place and then the wind comes and covers them over with dirt so that a tree will grow. The seeds look like this.

MABEL GRAY.
Marcy School. 3rd Grade.

The Ant.

The ant is an insect. It is an insect because it has six leg, two wings and has the body divided into three parts.

They live in swarms.

Military Ant Working Ant Larva Cocoon

They come from an egg.
At first it is a larva and afterwards changes to an ant.
The parts of the body are head, thorax and abdomen.
The parts of the head are mouth, eyes and feelers.
It has a sucking mouth.
The use of its feelers are to hear with.
Their eyes are placed so that they can not move.
Their eyes are made of many little eyes.
The thorax is the middle part of the body.
There are three legs on each side of the under parts of the thorax.

ALBERT BASTIR.
Peabody School. 3rd Grade.

Paul Revere's Ride.

When King George was ruler over England, the people in America had to do just what King George said they should do, for he had possession of America then.

He made them pay heavy taxes. Every little bit of tea they drank, every ship they sent out with goods, they had to pay taxes on. King George was very cruel to them.

The people of America thought it was not right for him to be so strict with them. So they made up their mind not to obey him.

King George heard about this and sent troops of soldiers over to Boston to watch the Americans.

The British troops stayed in Boston.

Very soon the Americans began to think they had better begin to save powder and shot and guns.

They said, "If the British should fire upon us we would have some thing to protect our selves." And they began to store up powder, some in Concord and some in Lexington.

When the British had heard of this they said that they would go some night and burn the different places where the Americans had stored their arms.

Paul Revere had heard what the British were going to do and he told a friend of his to go up in the North Church tower and said, "If you see the British by land hang a lantern in the highest window and if by sea hang two lanterns as signal lights.

JOHN SLEAVIN,
Franklin School. 3rd Grade.

The Thistle.

The thistle is found in the wide open fields in September.

It is about three feet high.

The plant is very tall and looks pretty.

It has a blossom that is purple and looks like a vase of pretty flowers.

The root tapers and the color of it is brown.

The stem is round with little grooves in it.

(Drawn from nature) By Danny Johnson

The leaf is hand-shaped and it has little spines on it.

The seed is brown and it has little white threads that carry it.

MARGUERITE MORGAN.
Marcy School. 2nd Grade.

The Swan Maidens.

The King lived in East. The people called him the King of the Golden Sword. The King rode in a goldon chariot.

The King gave the people flowers and trees.

The King had daugters. The Kings daugters were called Swan Maidens. They were dreesed in whit and gray.

When they worked they changed there dresses.

When they worked in the garden.

When they worked the earth people said "it was raining."

When their work was done they went to their father.

In the winter they maded a white blanked.

INGA ENGEBRETSEN,
Bremer School. 2nd Grade.

Arthur Connell Grade 2.
Dec 5. 1894.

The first Thanksgiving.

In 1620 Pilgrims did not have good crops. In 1622 they had good crops for Bradford stood looking over the fields of golden corn and many other things that the Pilgrims had planted.

He called all the people togather and said. "Let us have a day to give thanks to god." "A Thanksgiving A Thanksgiving" cried they all at once. They appointed a day. I will tell when the day was. It was on Nov. 19. 1623 for Bradford said we men will fish and shoot wild turkeys, get oysters

Lyndale School A Class.

Condensation.

If you hold any thing that is quite hot the water-dust will change into steam.

When the steam gets up in the air it squeizes to gether becuse it is cold.

Them little atoms makes a big rain-drop.

Water-dust is a cloud just like the ones up in the sky only they are smaller.

When the water freezes then it makes ice.

Near the spout of the kettle you can't see any thing but (tow) two little lines.

BEATRICE LAYDEN.
Bremer School. 2nd Grade.

The Feather.

The parts of the feather are the quill, the stem and the barbs.

On each side of the stem are little barbs, joined together by little hooks.

ROSE SCHAFER.
Franklin School. 2nd Grade.

The Deer's Horns.

(Questions asked by child.)

Do you know what kind of a deer these horns came from?

What are thoe's little things near the bottom? Is it very sharp at the end?

Did these horns fall off or were they cut off? Are all deer's horns alike? Are they very heavy? Are they hard to break?

EULA MCCLARY.
Marcy School. 3rd Grade.

The Leak in the Dike.

I am going to tell you about a little boy whose name was Peter and who lived in Holland.

One day his mother called him to carry some cakes to a blind man who lived across the dike. Peter left his brothers and sisters and went.

The blind man could feel the sun shine when Peter came.

When Peter went home he picked flowers and when he was picking the flowers he heard a rippling noise.

"I will go and see what it is," he said.

It was a leak in the dike.

The child knew the danger and put his hand in the leak.

He cried for help but nobody heard him so he stayed all night.

In the morning his mother saw some people bringing him home and they told her how he had saved the land.

EFFIE ELLIS.
Lyndale School. 2nd Grade.

The Pansy.

It grows in the shade and it ought to have a good deal of water.

The stem of the pansy is hollow and green.

There are five parts to the green cup.

There are five petals and they feel like velvet.

My pansy is white and has some purple on it.

Two of the leaves has some purple on them and you cannot see it unless you move some of the leaves.

LIZZIE MAHANEY,
Marcy School. 2nd Grade.

Hiawath's Canoe.

Hiawatha asked the birch tree for his bark to cover his canoe. The cedar tree gave Hiawatha his boughs to make the frame to make his canoe. The tamerack tree for his roots to sew his canoe. The fir tree gave him the resin to fill the cracks up Hiawatha got some quills from the hedge-hog and made two stars on each side on his canoe.

EMMA NOVY,
Bremer School. 2nd Grade.

By Alma Campbell, (Marcy School)

(In this department teachers and editor will meet together for a social talk and exchange of opinions, experiences and suggestions. All that teachers would say of their work, if they were with a congenial company of other teachers will be in place here. Questions and letters to the editor will here receive attention and be treated in the best way to bring the greatest good to the greatest number.)

Arbor Day.

The illustrated story in this number was not written for the children, but for *you*, teachers, and by special request, that those of you who are working in the city schools, with solid brick school yards, surrounded by crowded, dirty streets with not a tree in sight, might not say in perfect despair, "What can *I* do on Arbor day?"

The little poem "God's House," (page 117 of this number) is a good text for the sentiment of the day. It is a beautiful poem. Put it upon your blackboards, and let the children memorize it. The "figures" in it are so simple the little children can be made to understand the similes if explained clearly. There can be but one opinion as to the wisdom of memorizing such a selection as that.

Simple exercises have been arranged in the entertainment columns for the different rooms. Those teachers who have a file of last year's PRIMARY EDUCATION, will do well to bring out "Arbor Day Brevities" again, (En't. d'p't.) which were carefully prepared for the little children. These contain the principal facts as to the *value* of trees, which should not be forgotten in impressing the true sentiment of the day.

Easter Vacation.

It is to be hoped that every teacher will have a "breathing spell" in a spring vacation before beginning the last term of the year. Will it be crowded with "spring sewing," or have you learned to rest, when rest you should?

A Kindly Nudge.

The publishers of PRIMARY EDUCATION take a positive delight in giving to its readers the very best that can be obtained as each number of this paper bears witness. Neither money nor effort are considered whether in "good times" or "bad times," to make this paper eminently attractive and helpful to the primary teachers of the country. You, on your part, have responded grandly with subscription commendation and, for the most part, with financial return. But it is very easy, teachers, to give your name to an agent, or to order from the office and neglect to send promptly that "almighty dollar," in return. It is one of those things that you can do at any time and so is *not* always done promptly.

Can you send it *at once* and have it "off your mind?" It is this that makes the wheels go round.

Supplementary Picture.

Another group of birds as delicately prepared as those of last month. What are you doing with these? Can't you group and frame them and thus have a veritable "flock" always with you?

Cleveland Meeting.

The editors of *Educational Review* (N. Y. city) publish the report of "Committee of Fifteen" in book form, (price 35 cents.) Full extracts from Dr. Harris' Report will be given in May PRIMARY EDUCATION.

Credit. —The quotation "What are Our Children Saying?" in March number of this magazine, was an extract from an article in *Sunday School Times*, by Mrs. Eugenie L. Beckwith entitled "Children's Misunderstandings."—ED.

The following letter explains itself. Will any teachers who have a mite to offer, by way of personal experience, send it to PRIMARY EDUCATION?

EDITOR OF PRIMARY EDUCATION.

Dear Madam: — I read your paper every month and often find help in it, but notice the fact that very little time is given to ungraded classes. When I speak of ungraded classes I mean the kind which exist in some of our Boston schools, the foreign element predominating, and not the dull element left from other grades.

As the teacher of a class made up entirely of non-English speaking children, and knowing that such classes exist in other cities with large French, Italian, and Russian population, I thought perhaps a column now and then in your valuable paper, devoted to our special needs, would be gratefully accepted by many other teachers in the same line.

* * *

Boston.

Frederick Douglass.

The teachers in the highest primary room may wish to say something to the children about this man that they will remember as long as they live. His recent death has filled the columns of the newspapers of every shade of political and religious opinion, and many of the children have doubtless heard echoes of it in their homes. This remarkable man was the product of the times — such times as the children now in our schools will never see, and will only know as a part of the history of our country. Any teacher who wishes to tell the story of Frederick Douglass will find help in this little story *told by himself*. in addressing a colored school.

"I once knew a little colored boy whose mother and father died when he was but six years old. He was a slave and had no one to care for him. He slept on a dirt floor in a hovel, and in cold weather would crawl into a meal bag head foremost and leave his feet in the ashes to keep them warm. Often he would roast an ear of corn and eat it to satisfy his hunger, and many times has he crawled under the barn or stable and secured eggs which he would roast in the fire and eat.

"That boy did not wear pants like you do, but a tow linen shirt. Schools were unknown to him, and he learned to spell from an old Webster's spelling-book, and to read and write from posters on cellar and barn doors, while boys and men would help him. He would then preach and speak, and soon became well known. He became Presidential Elector, United States Marshal, United States Recorder, United States diplomat, and accumulated some wealth. He wore broadcloth and didn't have to divide crumbs with the dogs under the table. That boy was Frederick Douglass.

"What was possible for me is possible for you. Don't think because you are colored you can't accomplish anything. Strive earnestly to add to your knowledge. So long as you remain in ignorance so long will you fail to command the respect of your fellow men."

"Thank You."

My "ice man" says "Thank you" when I hand him a silver coin. Why should he? He has only received that which was his due — an equivalent for value bestowed.

My "coal man" receipts his bill, takes the amount in his grimy hands and says "Thank you." Why? He only accepted that which was his due.

Yet it is very pleasant to hear it in both these cases, and there is a cheery warmth about the heart as they turn away to their work and I return to mine. Are our children being taught to acknowledge that which is justly theirs by right, simply as a matter of courtesy? It is noticeable that the "grocer *boy*" who receives his "change" at my door doesn't say anything in reply; neither does the "paper *boy*" who exchanges his paper for two cents. Do boys and girls have to "grow up" before they learn and practice these little courtesies? Shall the custom not become automatic in the school-room?

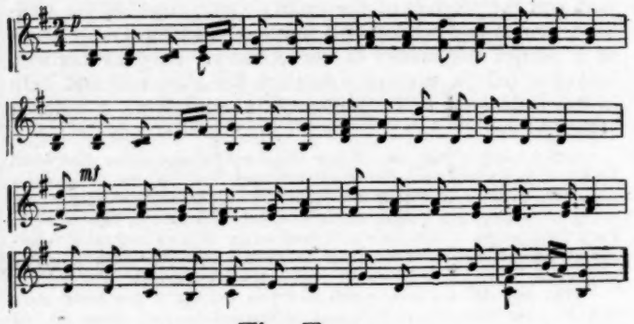
Froebel's Birthday.

This occurs April 21. I would never let the occasion pass, teachers, without notice. Do not let the little kindergarten children in your room suppose Froebel belongs solely to the kindergarten because they hear nothing more about him after they enter the primary school. Froebel was large enough and broad enough to brood over little children everywhere, and would never have recognized any "lines" between kindergartens and primary schools.

An Arbor Day Exercise.

(For youngest children.)

THE TREES.



The Trees.

[1] See the trees all in a row
[1] Gently swaying to and fro;
[2] Hark, the wind is rising now,
[3] And the trees before it bow;
How their creaking branches sound
[4] While the leaves are scattered round;
Now the passing storm is o'er,
[5] Quietly they stand once more.

[1] See the trees all in a row,
Gently swaying to and fro;
Sunlight thro' the branches gleams,
Touching them with golden beams;
[2] Birdies now may build a nest,
Robin, wren, and yellow-breast,
And the trees shall safely keep
Little birdlings while they sleep.

[1] Through the sunshine fair and bright
Birdies flutter with delight;
[2] Weave with care the little nest,
Robin, wren, and yellow-breast;
[3] 'Neath the leafy shadows green,
Soon, too, pretty eggs are seen.
[4] Now the little birdies peep,
Father, sing them soft to sleep.

Directions.

1. Children stand in straight rows (six rows) in their aisles and sing the first verse together, gently swaying their bodies as they sing.
2. Raise arms gradually to show the wind is rising. (Some pupil (or teacher) can imitate the rising wind by z-z sound.)
3. Bow gradually before the wind.
4. Motions with fingers to imitate scattering leaves.
5. Stand quietly while singing last two lines.

The first two rows may be willows, the next two rows maples, and the next two apple trees. The willows sing, if music can be found to suit the words; if not, they recite together the following:

* (Music and first two verses, from *Kindergarten Chimes* (Ditson & Co.) The remainder of the exercise was written for PRIMARY EDUCATION.)

The Willows.

We are brookside willows,
[1] Bending low, bending low,
Many yellow catkins
With our leaflets grow.

[2] Showering down their pollen
For the early bee,
Welcome, little traveller,
Here's a feast for thee!

[3] Every tiny blossom
Is a golden cup,
Holds a drop of honey,
Come and drink it up.

1. Raise arms in front, droop hands from the wrist. Sway.
2. Twinkle the fingers to imitate scattering pollen.
3. Hold hands to imitate cup.

The maples next sing or recite:

The Maples.

[1] Many-fingered maple
Spreads her palms on high,
Where the merry breezes
Reach and scatter by.

"Hurry! I will catch you,"
Maple shouts in glee,
[2] While her dancing leaflets
Rustle on the tree.

1. Raise arms with palms out, move back and forth, fingers spread.
2. Same position — twinkle leaflets.

The apple trees sing or recite:

Apple Trees.

We are apple blossoms
Just arrived in town;
[1] Green our little bonnets,
[2] Pink and white each gown.

Soon our pretty dresses
Fade and fall away,
[3] Like a band of snow-flakes,
On the breeze of May.

Left among the green leaves,
Hidden safe from sight,
[4] Little green balls, daily
Growing with delight.

In the gray October
You will surely see
[5] Pretty red-cheeked apples
Hanging on our tree.

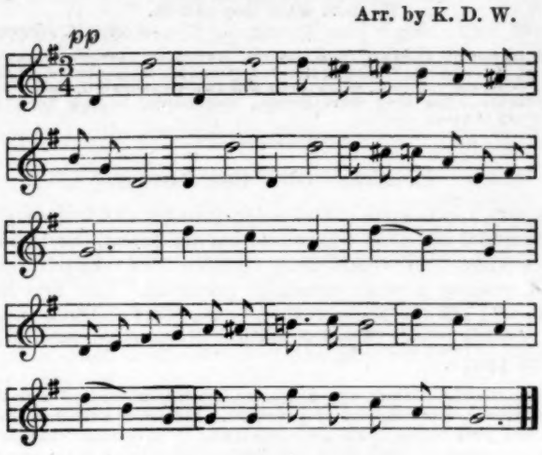
1. Touch the head lightly with the finger-tips.
2. Spread out gowns at sides daintily.
3. Raise hands in front and flutter slowly down.
4. Thumb and forefinger make a tiny circle to represent apples.
5. Raise arms, with hands drooping from wrist, fingers relaxed to imitate hanging fruit.

The school all unite in the second verse, "See the trees all in a row."

1. (Third verse.) Little father and mother birds flutter about, each touching three children who come forward to the front.
2. Form them in a circle to represent a nest, weaving arms closely together.
3. Two very small children slip in the nest where the mother bird has taken her place. (All this is done during the singing of third verse.)
4. Mother cuddles a bird under each arm, and they go to sleep during the Slumber Song.* Father bird remains near the nest.

SLUMBER SONG OF THE BIRDLINGS.

Arr. by K. D. W.



Sleep now, birdies!
Clouds are gathering in the sunny sky,
Sleep now, birdies!
Breezes sing a lullaby,
Sleep now, my birdies,
Nestle under loving mother wings,
Sleep now, my birdies,
While thy father sweetly sings.

Arbor Day March.

AIR: — "Marching Through Georgia."

Celebrate the Arbor Day
With march and song and cheer,
For the season comes to us
But once in every year;
Should we not remember it
And make the mem'ry dear —
Memories sweet for this bright day?

CHORUS.

Hurrah! hurrah! the Arbor Day is here;
Hurrah! hurrah! it gladdens ev'ry year;
So we plant a young tree on blithesome Arbor Day,
While we are singing for gladness.— *Sel.*

For the Little Ones.

By SUSIE M. BEST.

(An Arbor Day exercise for eight little children. The first and last verses to be recited by the eight in concert, the other verses individually.)

We are four little maids and four little men,
And together we're just two less than ten,
If you'll listen to us we'll try to say
A word or two about trees to-day.

This is the root of the tree — you know
If it had no root it could not grow.

This is the bark, I'm sure you see
It is rough and hard as it can be.

This is a little branch — you'll find
On every tree the self-same kind.

Here are the leaves, when they appear
We know that the lovely Spring is near.

The top of the tree we call the crown,
In Summer it's green, in Autumn, brown.

The leaves of the tree are its foliage,
And the rings in the stem reveal its age.

The tree is worthy of our best care,
For it takes a poison from the air.

For this alone it seems to me
That all of the world should love the tree.

We are four little maids and four little men,
And together we're just two less than ten;
If you listened, we're sure you heard us say
A word or two about trees to-day.

*Words and music from *Kindergarten Chimes* by Kate Douglass Wiggin (Ditson & Co.)

What April Brings.

By OLIVE E. DANA.

(An Exercise.)

It would add much to the interest of this exercise to illustrate it by a series of tableaux.

April may be represented by a fair-haired little maiden in a green and yellow gown. She may appear, *en tableau*, after the first recitation, and should carry a bunch of keys, of many sizes. A seat may be given her on the platform, or she may re-appear at intervals.

The children should bring, if possible, the flowers they speak of, and one may carry a basket, displaying seed of wheat or corn.

Whenever possible, have the action alluded to expressed in tableau or mimic pantomime. Before the lines beginning,

"We send them, bulb and rootlet,
Into the chilly earth" —

have a child seen in the act of planting a bulb. Directly after the recitation another tableau may represent her watering and tending the shoot.

Several familiar songs should he sung. Among those more appropriate are the selections:

"Wake! wake! from Slumber Light."
"When Flowers so Sweet are Springing."
"Bird Song," and "The Cuckoo."

After the recitation referring to the robin and the nest he is building, the children may sing, "There's a Little Brown Nest 'mong the Roses," and later, the little song, "The Bird's Nest." As a finale, sing "Spring Echoes." If this is not familiar or the children are very young, any simple songs which are appropriate to the exercise may be substituted.

First child.

April's hands are full of keys,
And for every one she tries
Some new, lovely thing she brings
To brighten earth and greet our eyes.

And she brings from every door
She unlocks, gifts of her own,
Leaf and blade and blossom pour
From her portals open thrown.

Second.

I saw to-day a strip of green
Upon the pasture-hills;

Third.

I gathered from my garden bed
Some yellow daffodils.

Fourth.

A robin in the maple sang
A morning song to me;

Fifth.

I saw one bringing threads and straws
For his nest in the old elm-tree.

Sixth.

The lilacs all are budding, too,
And, underneath the pines,

Are Mayflowers just a-peeping out
Where the sun the longest shines.

Seventh.

I saw a farmer plowing, and he made
Long furrows where his corn and wheat will grow.

Eighth.

Out of a bulb I planted came a stalk
That by-and-by a flower will show.

Ninth.

"My seeds," says April, "open
In the darkness hidden away,
But the leaves and flowers are fashioned
In the warm, sunshiny day.

"You send them, — bulb and rootlet,—
Into the chilly ground,
For the treasures they will bring you
Can only there be found."

Tenth.

"Ah! Do you think how they come,"
Asks April, "out of the gloom
Of their darkened, frost-bound beds,
Into cheerful, fragrant bloom?

"How they grow and thrive and flower,
Whether days are dark or bright?
Why, they take whatever befalls them
And keep their faces bright!"

Eleventh.

"So slight not *your* little duties,"
Brave April says, once more;
"They are the keys that open,
Like mine, each close-shut door.

"All the little tasks remember,
Do them with cheer and grace;
Life, like the sunshine, blesses
The smiling, uplifted face!"

What Little Things Did.

A little bird's song
Made the lonesome woods ring;
A little rill's trickling
Made the sweet cooling spring;
A little flower nodding
Made the big earth look brighter;
A little child's laugh
Made sad hearts grow lighter.

— *Belle Sparr Sackett.*

The Cary Tree.

(Recitation for a little girl.)

Two little girls, long years ago,
Going from school one day,
Found by the road a little tree,
A farmer had thrown away.

One of the wee girls picked it up,
And the other said,
"Let's plant, and see if it will grow,"
Then quickly on she led.

They carried it across the road;
With sticks and tiny hands
They made a place, and planted it
And firmly made it stand.

They watched it grow, from day to day,
And then from year to year;
And as it grew, the girls grew too,
The tree to them was dear.

Alice and Phœbe Cary, were
Names of these girls of yore,
Who set the little treelet out,
That grew a sycamore.

When they were grown to womanhood,
And lived far, far away,
Whene'er they'd visit their old home,
They'd go to see their tree.

These women grand have passed away;
The old tree stands there true,
A monument to little girls,
To show what they can do.

— *Mrs. M. Harris.*

(In Hamilton County, Ohio, on the Hamilton turnpike, between College Hill and Mt. Pleasant, stands a sycamore tree, planted by Alice and Phœbe Cary, in 1832, when Alice was twelve years old, and Phœbe only eight. After they were grown, they moved to New York City. The story is given above.)

Breezes from the Forest.

A very appropriate exercise for younger children may be made under the head "Breezes from the Forest," or "Voices of the Trees," in which many children may take part, each pupil reciting a verse especially prepared. The first may begin: "I am the sugar maple," etc., other children speaking as other trees. The following is given as an illustration of this plan:

"I am the sugar maple, and a favorite ornamental tree. People love me because I am possessed of sweetness. I claim to have made more boys and girls happy than any other tree. I have many changes of dress — wearing in spring the softest shade of every color, in the summer the purest emerald, and in the autumn the most brilliant yellow. My wood is used for furniture, floors, and for furnishing the interior of houses, and after the houses are furnished, few can warm them better than I."

The expression in the opening sentence may be varied, as "I am known as" — "They call me," etc.—*Sel.*

We Thank Thee.

(Concert piece for lower grades.)

For flowers that bloom about our feet;
For tender grass, so fresh, so sweet;
For song of bird, and hum of bee;
For all things fair we hear or see,
Father in heaven, we thank Thee!

For blue of stream, and blue of sky;
For pleasant shade of branches high;
For fragrant air and cooling breeze;
For beauty of the blooming trees,
Father in heaven, we thank Thee!

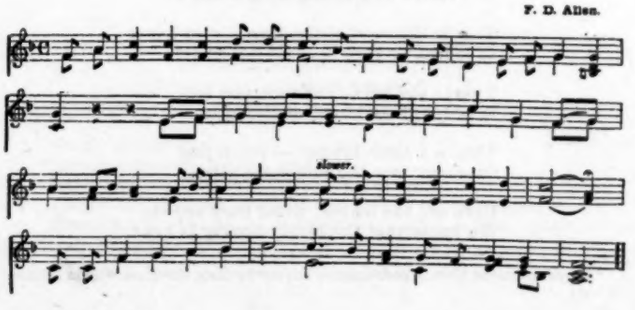
A Useful Possession.

If a string is in a knot,
Patience will untie it;
Patience can do many things,
Did you ever try it?
If 'twas sold at any shop
I should like to buy it,
But you and I must find our own,
No other can supply it.

— *Anna M. Pratt.*

Music for "Song of the Rain" on page 120 of this number. From *Songs and Games for Little Ones*, Walker and Jenks. (Oliver Ditson & Co.)

THE SONG OF THE RAIN.

F. D. Allen.

The Robin's Nest.

"Where shall I build my nest?" said a robin one day in spring.

"Build it here, among my leaves, dear robin," answered the rose-bush. "I shall soon be thickly covered with leaves and with beautiful blossoms, so no one will see your nest."

"Ah, no, good rose-bush," the robin said, "I should not dare to trust my nest among your leaves and blossoms."

Then the apple-tree said, "Build your nest in my branches, pretty robin. I will rock your baby robins, and sing them to sleep with my rustling leaves."

The robin looked at the sturdy old apple-tree, and answered, "Yes, yes, kind tree. My little nest will be safe in your strong arms, I know." And in a few days the dainty home was made.

Making Honey for Bees.

"How pretty you are!" said Dell, and she held the soft pussies close to her cheek. "Aren't you lonesome without a single flower to speak to? And don't you wish the May-flowers would hurry?" "Lonesome, little girl, in this beautiful world, with so much work waiting for us to do? Why, we could hardly wait to come, for ever since the snow went, we have heard the children calling, 'Come, Pussy, Pussy Willow;' and now they are so glad to see us, and their loving words are the music to which we work all day long, helping the bees make honey for you."

"Little Dell don't know, Oh, she don't know," buzzed the honey bees, as they lighted upon the willows, and began filling their baskets with something from the Pussies' pantry.

"We'll tell her then," laughed the Pussies. "We'll have no secrets from the little girl who gives us her love. We make bread for the bees, little Dell, new, sweet bread that they love. There is a pretty red and yellow bread-basket, too small for you to see, on their hind legs. They pack this as full as ever they can, and come to us again and again, till all the bread we have for them is gone. They could not make the honey you like, without this bread to eat, so every Pussy is glad to be a bee's cook. They are going home, now. See their dusty coats! Their bread is yellow dust. Lonesome, Dell? Why, don't you see that with so much bread-making, we haven't time to be lonesome?" S.

A Broken Branch.

A boy passing down the street broke off a switch from a willow tree. After he had played with it as long as he cared to, he threw it as far as he could, into the field, by the river.

You can guess how sorry the willow branch felt, to be broken from the mother tree and left there to die. By and by another boy came through the field, and picked the stick up and set it in the ground like a little straight tree. Then both boys went home and forgot all about the willow branch.

But the sun and rain remembered it, and whispered to it, and told it to grow.

"Can I, all alone, without the tree to help me?" said the little branch.

"Oh, yes, indeed," said the sun. "Just be brave and strong, and try with all your might."

So the slender little branch grew brave, and did try. First, there were roots to send down for food. After those found their way down into the ground, the branch felt very strong and proud.

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"I am a tree already," she said to herself. I can stand firm, and I can get my own living now. I will be big enough for the birds to build in, sometime."

The boys grew up to be men. One day they went rowing on the river together, and as the day was hot, they pushed their boat under a tree that grew on the bank, and rested in the cool shade. It hung long drooping arms around them, and made their rest sweet. Though they could not understand, the tree was whispering to them,

"Don't you remember the willow branch?" she said.

C.

The Old Oak.

Farmer Breen was very thrifty. He never allowed a weed to grow by the roadside if he could help it. When a tree was done bearing he cut it down.

Out in Farmes Jones' pasture stood an old oak. Farmer Jones' grandfather had planted it from a little acorn.

"Why don't you cut that old oak down? It is half dead," said Farmer Breen to Farmer Jones one bright spring morning.

Farmer Jones looked up at the old tree. "It is rather old," he said; "but what would the birds do for nesting places if I should cut it down?"

"How foolish!" thought Farmer Breen.

Autumn came. "Why don't you cut that old half-dead oak down?" said Farmer Breen again.

Farmer Jones looked up at the tree. "Yes, it is old," he said, "and it is half dead;" but what would the squirrels do without that old oak?"

"How foolish!" said Farmer Breen again.

But Farmer Jones did not care. He and the birds and the squirrels understood each other, and that was enough.

M.

Where Did the Willow Bud Come From?

A little boy carried a stick to school. By and by his teacher thought she had better take care of it for him. So she laid it down in the school-room till school was done.

Then the boy wanted his stick again, and there on the side — what do you think? A white pussy willow bud was showing, that hadn't shown before.

"Where was it before? Where did it come from?" the teacher asked.

"It was there before," said the boy, "only it hadn't opened its coat."

And of course that was true. But who would think a warm room would make a pussy willow want to take off its coat, just like a boy or girl! C

PUBLISHED BY KINDERGARTEN ASSOCIATION, BANGOR, (Me.)

(Printed by Chas. Glass & Co., Bangor.)

BUTTERCUP GOLD AND OTHER STORIES. By Ellen Robina Field.

A sweet, dainty little volume of Mother Nature stories, which is sure soon to take its place and be recognized among best kindergarten literature. In the first story Maurice hears the little New Year tapping at his window—the little New Year that has a blessing for everybody if only Maurice will help him distribute them. In the second story, Mother Nature must have a house-cleaning—the earth must be rid of its snow and slush and mud. March helps in the sweeping, the April and May helped decorate the nice clean world. In the third story Mother Nature wants to wake her children that have slept so long, so she calls upon the good Raindrops and Sunbeams to help her, and very soon the whole big family is wide awake. And so through the entire twenty stories, the same choice spirit, the same perfect taste and balance of metaphor holds itself faithfully and steadily present. The book is beautifully bound in brown cloth, with a tiny landscape and a graceful branch of golden buttercups stamped upon it.

It will be sent postpaid by Mrs. J. F. Snow, President of Kindergarten Association, Bangor, upon receipt of price, 75 cents.

BURNZ & CO., NEW YORK CITY.

THE STEP BY STEP PRIMER. By Eliza Boardman Burnz, Teacher of the Phonetics of the English Language and Principal of the New York School of Phonography.

This primer is designed to teach the child that letters stand for spoken sounds. It is so arranged that a little child can learn to read from it easily through analogy. The common spelling is not changed, but the pronunciation of each word is shown on the printed face. Silent letters are shown by the light lines of the Leigh type, once so popular, and the pronunciation indicated by tiny letters underneath those used in the usual spelling of the word. The book is a self instructor. Dr. W. T. Harris says of it: "It seems to me your device, if adopted, would prove of great utility." A page showing the type of the primer will appear in the May number of PRIMARY EDUCATION.

GINN & CO., BOSTON.

LITTLE NATURE STORIES FOR LITTLE PEOPLE. From the essays of John Burroughs. Edited by Mary E. Burt.

"This book is intended as a primary text book in science and reading. The motive in it is to introduce teacher and pupil to a mutual love for the woods and fields, to the study of animals and plants, to the observation of real things in life, and to the methods of a true naturalist." While the "motive" of the book is certainly praiseworthy, it is a doubt if the arrangement of its matter is such as to secure this result. It is a book of 140 pages, designed to cover two or three of the first years of school life. It begins with "A mouse sat on my hand," in enormous type, which serves as a text from which to teach the essay, "A Brave Mouse," and closes with a vocabulary of such phrases as, "apparently probing," "spontaneous desire," "incomplete observation," in ordinary type. A child *may* enjoy using the same reader through the length of time between "A mouse" and "apparently probing," but it is a doubt if the advanced boy has any passion to see his first stepping-stones always in sight. It is to be presumed he will become very tired of the mouse in herculean type before the book is finished. Again, this book is designed for both teacher and pupils, and this seems a grave error. It is not always wise for the child to see what the author says "to the teacher." There can be but one opinion as to the inspiring essays of John Burroughs, even for children, provided they receive the right interpretation from a nature-loving, discriminating teacher. But to give "On the Look-out" on one page, in fine type, exactly as it is written by Mr. Burroughs, and to begin its interpretation on the next page by such sentences as "My cat Nig is black" (illustrated), seems to indicate a great distance between high and low C, and it is a doubt if the inspiration of the essay will not be lost in travelling up the scale. (It is to be hoped there will be no colored boys in the class when the lesson of "black Nig" is in order.) If science and reading ever ought to be combined in one book, and if the child-mind can bear all these peculiarities of "make-up," all the reverent, nature-loving spirit of Burroughs they can absorb under these difficulties will do them good all their life long. The book is attractively bound and well illustrated.

PUBLIC SCHOOL PUBLISHING COMPANY, BLOOMINGTON, ILL.

THE ELEMENTS OF GENERAL METHOD, SPECIAL METHOD FOR READING, SPECIAL METHOD FOR GEOGRAPHY, SPECIAL METHOD IN LITERATURE AND HISTORY. By Charles A. McMurry, PH.D.

Any body of teachers who select "General Method" for regular study, to be followed by Round Table discussion of its contents, will find their views broadened, their conception of the aim of education clearer, and their whole nature quickened long before the book is finished. To say one does or does not sympathize with the Herbart School of Pedagogy, means little, unless one has come into direct contact with his ideas and has tested their application to school work. This book contains a plain statement of the leading principles of Herbartianism. It is phrased in simple, concise language that is at once vigorous and sympathetic. To open the book and turn its leaves is to long for *time* to study it as it deserves. 200 pages. Price, 75 cents.

The Special Methods are little encyclopedias of information concerning their special subjects, based on the principles of General Method. Their suggestions as to details of method and lists of book-helps are just what teachers are always looking for. Other volumes of Special Methods are in press, and the whole, when completed, will constitute a little pedagogical library that every teacher will be glad to own and feel rich in its possession.

MILTON BRADLEY COMPANY, SPRINGFIELD, MASS.

ELEMENTARY COLOR. By Milton Bradley.

Color as a public school study is yet in the experimental stage of its history. The author of this book has done more than any other one man to stimulate thoughtful teachers along this line, to suggest experiment, systematize fragmentary results, and utilize the best in a practical way. This little book sets forth in a most modest, unpretentious manner the invaluable results of years of thoughtful effort, during which the author has spared neither his means nor himself. The basis upon which his system rests is scientific; his standards are the only possible permanent ones; his nomenclature is the only practical one yet devised; his theories alone, of all those yet advanced, account for facts of color and of color groupings found in nature and in art. The fact that this system has been adopted as the basis for instruction in the leading universities and colleges of the country, is no slight testimonial in its favor. The literary style of the book may not be above criticism; its suggested exercises may need to be adapted to actual school-room work; but its spirit is ideal, and no one who intends to march with the vanguard in education can afford to disregard this work.

EDUCATIONAL PUBLISHING COMPANY, BOSTON.

STORIES OF ENGLAND.

In the now well-known series of "People and Places, Here and There," the *Educational Publishing Co.*, has now brought out another volume—"Stories of England." The little book begins by calling the children's attention to the shape of England, and its possibility of sometime having fitted into the mainland round about it. This is a suggestion fresh and new to the little folks, and one which, if their teacher is wise, she will apply to other coast-lines in other parts of the world, building speculation upon them at least. This is followed by stories of England's early days—the Celts, the Romans, the Saxons. The writer calls attention to the Cheviot Hills as a race division, and again the child's mind is aroused to comparison and thought. "Had there been no Cheviots," the author says, "then it is probable there would have been no Scots, separate in language, manners and customs from the English." Following the stories of early history, comes a voyage around the coast beginning at the north-east and coming down and around to the north-west. Here is a field for legends without number, and these the author has been quick to catch. There are the story of "Grace Darling", the "Goodwin Sands", "Eddy Lighthouse", "Plymouth", "Land's End", "Cornwall," etc. Then a chapter on the water-sheds, the rivers, their directions, the English plains and valleys, and the author takes the reader up and down the counties, showing in fascinating word picture, many a fine old castle, cathedral, and closing with a visit to Windsor castle and the Queen. The book ought to become as popular in England as it is sure to be in our own land.

BARDEEN PUBLISHING CO., SYRACUSE.

HOW TO TEACH NATURAL SCIENCE. By Dr. Wm. T. Harris. Price, retail 50 cents.

It is with true educational insight and understanding that C. W. Bardeen has reprinted and brought out in new and appropriate style this little book of Dr. Harris'. In this small classic, Dr. Harris, with his well-known clearness and systematic method, has presented the subject of Nature teaching under fifteen distinct and consecutive topics. Following these are generous suggestions of what to teach, what not to teach, and the order of the teaching.

AMERICAN BOOK CO., NEW YORK CITY.

GEOGRAPHIC MONOGRAPHS. By John W. Powell.

Vol. I., No. I., of these monographs (March) will be hailed by the teacher of geography with delight. That the series bids fair to be direct and simple and practical, the following quotation from page 8 of the first monograph will be proof positive:

"Now, it must be understood how streams choke themselves. When the waters are low in any stream, they are clear. When the waters are high, they are muddy, for the rains which cause the increase of volume wash the surface soil into the streams. Rain thus makes the river muddy. The mud brought into the stream, being heavier than the water, sinks to the bottom. Where the waters are swift, but little mud falls; where the waters are quiet, much mud falls. The waters are swifter around the outside of a bend, and slower on the inside of it. From this slower water the mud is deposited, so the bank of the inner curve grows. As the bank grows, the water is pushed over against the other bank on the outer side of the curve, where its flow is increased in velocity so as to cut the bank, and load more material —" etc., etc.